3-NOV-2000

WEST

Searches for User *hguttman* (Count = 83)

Queries 34 through 83.

Latest | Prev | Next | Oldest

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S #	Updt	Database	Query	Time	Comment
S83	U	USPT,JPAB,EPAB,DWPI,TDBD	(((solubili$3 or aggregat$4 or disaggregat$4 or dissociat$5))with (chaotrop$3 or urea or guanidi$4)with (pressure)) and (chaotrop$3 or urea or guanidi$4)	2000-11-03 14:35:42	
S82	U	USPT,JPAB,EPAB,DWPI,TDBD	((solubili$3 or aggregat$4 or disaggregat$4 or dissociat$5)) with ((protein or polypeptide or enzyme)) with (pressure)	2000-11-03 14:34:56	
S81	U	USPT,JPAB,EPAB,DWPI,TDBD	((solubili$3 or aggregat$4 or disaggregat$4 or dissociat$5)) with ((protein or polypeptide or enzyme)) with (chaotrop$3 or urea or guanidi$4) with (pressure)	2000-11-03 14:34:26	
S80	U	USPT,JPAB,EPAB,DWPI,TDBD	((solubili$3 or aggregat$4 or disaggregat$4 or dissociat$5)) and ((protein or polypeptide or enzyme)) and (chaotrop$3 or urea or guanidi$4) and (pressure)	2000-11-03 14:33:25	
S79	U	USPT,JPAB,EPAB,DWPI,TDBD	pressure	2000-11-03 14:28:50	
S78	U	USPT,JPAB,EPAB,DWPI,TDBD	((solubili$3 or aggregat$4 or disaggregat$4 or dissociat$5)) and (((protein or polypeptide or enzyme))and pressure) and (chaotrop$3 or urea or guanidi$4)	2000-11-03 14:28:32	
S77	U	USPT,JPAB,EPAB,DWPI,TDBD	((protein or polypeptide or enzyme)) and pressure	2000-11-03 14:24:51	
S76	U	USPT,JPAB,EPAB,DWPI,TDBD	pressure	2000-11-03 14:23:57	
S75	U	USPT,JPAB,EPAB,DWPI,TDBD	((protein or polypeptide or enzyme)) same ((protein or polypeptide or enzyme)) same ()	2000-11-03 14:23:16	
S74	U	USPT,JPAB,EPAB,DWPI,TDBD	chaotrop$3 or urea or guanidi$4	2000-11-03 14:21:58	

S73	U	USPT,JPAB,EPAB,DWPI,TDBD	(protein or polypeptide or enzyme)	2000-11-03 14:18:50
S72	U	DWPI,USPT,EPAB,JPAB,TDBD	(solubili$3 or aggregat$4 or disaggregat$4 or dissociat$5)	2000-11-03 14:17:49
S71	U	USPT,JPAB,EPAB,DWPI,TDBD	(topical or ointment or cream or lotion) same (dandelion)	2000-10-31 09:20:51
S70	U	USPT,JPAB,EPAB,DWPI,TDBD	(topical or ointment or cream or lotion) and (dandelion)	2000-10-31 09:20:19
S69	U	USPT,JPAB,EPAB,DWPI,TDBD	dandelion	2000-10-31 09:20:03
S68	U	USPT,JPAB,EPAB,DWPI,TDBD	(((taraxacum officinale) or taraxacum or blowball or (canker wort) or (fairy clock) or (irish daisy) or ("lions tooth") or ("piss-in-bed") or (priests crown) or puffball or ("swines snout") or ("wet-a-bed") or (white endive) or (wild endive) or (witch gowan) or (doonhead clock) or ("pee-in-the-bed"))) and (topical or ointment or cream or lotion)	2000-10-31 09:13:22
S67	U	USPT,JPAB,EPAB,DWPI,TDBD	topical or ointment or cream or lotion	2000-10-31 09:12:33
S66	U	USPT,JPAB,EPAB,DWPI,TDBD	((taraxacum officinale) or taraxacum or blowball or (canker wort) or (fairy clock) or (irish daisy) or ("lions tooth") or ("piss-in-bed") or (priests crown) or puffball or ("swines snout") or ("wet-a-bed") or (white endive) or (wild endive) or (witch gowan) or (doonhead clock) or ("pee-in-the-bed"))	2000-10-31 09:10:00
S65	U	USPT,JPAB,EPAB,DWPI,TDBD	((ampelopsis)and (bletilla)) and ((ampelopsis)and (angelica))	2000-10-30 15:30:38
S64	U	USPT,JPAB,EPAB,DWPI,TDBD	(ampelopsis) and (angelica)	2000-10-30 15:30:26
S63	U	USPT,JPAB,EPAB,DWPI,TDBD	(ampelopsis) and (bletilla)	2000-10-30 15:30:15
S62	U	USPT,JPAB,EPAB,DWPI,TDBD	(ampelopsis) and (dandelion)	2000-10-30 15:30:02
S61	U	USPT,JPAB,EPAB,DWPI,TDBD	dandelion	2000-10-30 15:29:30
S60	U	USPT,JPAB,EPAB,DWPI,TDBD	ampelopsis	2000-10-30 15:29:18
S59	U	USPT,JPAB,EPAB,DWPI,TDBD	bletilla	2000-10-30 15:29:06
S58	U	USPT,JPAB,EPAB,DWPI,TDBD	angelica	2000-10-30 15:28:52
S57	U	DWPI,USPT,EPAB,JPAB,TDBD	angelica and bletilla and	2000-10-30

03-NOV-2000

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$%^STN;HighlightOn=  ***;HighlightOff=***  ;
Trying 3106016892...Open

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PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2


* * * * * * * * * *   Welcome to STN International   * * * * * * * * * *

 NEWS  1          Web Page URLs for STN Seminar Schedule - N. America
 NEWS  2  Aug 21  CAS patent coverage expanded
 NEWS  3  Aug 24  TABULATE Now Available in More STN Databases
 NEWS  4  Aug 28  MEDLINE from 1958 to Date - Only on STN
 NEWS  5  Sep  7  DGENE GETSIM ALERT: Similarity Current-Awareness
                  Searching of Biosequences
 NEWS  6  Sep 11  Textile Technology Digest (TEXTILETECH) now available
                  on STN
 NEWS  7  Sep 21  KKF renamed DKILIT
 NEWS  8  Sep 29  The Philippines Inventory of Chemicals and Chemical
                  Substances (PICCS) has been added to CHEMLIST
 NEWS  9  Oct 27  New Extraction Code PAX now available in Derwent
                  Files
 NEWS 10  Oct 27  SET ABBREVIATIONS and SET PLURALS extended in
                  Derwent World Patents Index files
 NEWS 11  Oct 27  Patent Assignee Code Dictionary now available
                  in Derwent Patent Files
 NEWS 12  Oct 27  Plasdoc Key Serials Dictionary and Echoing added to
                  Derwent Subscriber Files WPIDS and WPIX

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  * * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 14:58:32 ON 03 NOV 2000

=> index chemistry biosci

FILE 'PAPERCHEM' ACCESS NOT AUTHORIZED
FILE 'DRUGMONOG' ACCESS NOT AUTHORIZED
COST IN U.S. DOLLARS                          SINCE FILE      TOTAL
```

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                                                        ENTRY     SESSION
FULL ESTIMATED COST                                      0.15        0.15

INDEX 'AGRICOLA, ALUMINIUM, ANABSTR, APILIT, APILIT2, BABS, BIOCOMMERCE,
       BIOTECHNO, CABA, CAOLD, CAPLUS, CBNB, CEABA, CEN, CERAB, CIN, COMPENDEX,
       CONFSCI, DKILIT, GENBANK, INSPEC, INSPHYS, INVESTEXT, IPA, JICST-EPLUS,
       KOSMET, METADEX, NAPRALERT, NIOSHTIC, ...' ENTERED AT 14:58:53 ON 03 NOV
2000

80 FILES IN THE FILE LIST IN STNINDEX

Enter SET DETAIL ON to see search term postings or to view
search error messages that display as 0* with SET DETAIL OFF.

=> s protein or polypeptide or enzyme

     200244   FILE AGRICOLA
         78   FILE ALUMINIUM
      23511   FILE ANABSTR
       4120   FILE APILIT
       4120   FILE APILIT2
      22952   FILE BABS
      26912   FILE BIOCOMMERCE
     609141   FILE BIOTECHNO
     420637   FILE CABA
      63465   FILE CAOLD
    1816955   FILE CAPLUS
  11 FILES SEARCHED...
      11128   FILE CBNB
      44722   FILE CEABA
       2982   FILE CEN
         63   FILE CERAB
      15718   FILE CIN
      39533   FILE COMPENDEX
      46143   FILE CONFSCI
      11829   FILE DKILIT
     911568   FILE GENBANK
      26807   FILE INSPEC
       6166   FILE INSPHYS
      39594   FILE INVESTEXT
      12695   FILE IPA
     342931   FILE JICST-EPLUS
       2242   FILE KOSMET
        318   FILE METADEX
       4479   FILE NAPRALERT
      24565   FILE NIOSHTIC
      24082   FILE NTIS
       9703   FILE PAPERCHEM2
      80126   FILE PROMT
       3789   FILE RAPRA
       1515   FILE RUSSCI
    1184708   FILE SCISEARCH
  35 FILES SEARCHED...
       1059   FILE TULSA
        950   FILE TULSA2
        138   FILE USAN
       2133   FILE VTB
```

```
       992   FILE WSCA
     21000   FILE ADISALERTS
      4651   FILE ADISINSIGHT
     40352   FILE AIDSLINE
     41846   FILE AQUASCI
    124772   FILE BIOBUSINESS
   1712196   FILE BIOSIS
    134967   FILE BIOTECHABS
    134967   FILE BIOTECHDS
    355478   FILE CANCERLIT
 49 FILES SEARCHED...
      6758   FILE CROPB
      9343   FILE CROPU
     62894   FILE DDFB
    100497   FILE DDFU
 53 FILES SEARCHED...
    484829   FILE DGENE
     62894   FILE DRUGB
       706   FILE DRUGLAUNCH
       792   FILE DRUGMONOG2
      2516   FILE DRUGNL
    140949   FILE DRUGU
 59 FILES SEARCHED...
     14799   FILE EMBAL
   1307988   FILE EMBASE
    426119   FILE ESBIOBASE
       581   FILE FOMAD
      2345   FILE FOREGE
     84534   FILE FROSTI
    113647   FILE FSTA
      3213   FILE HEALSAFE
 67 FILES SEARCHED...
     50770   FILE IFIPAT
    491237   FILE LIFESCI
       907   FILE MEDICONF
   1577786   FILE MEDLINE
     12514   FILE OCEAN
      9763   FILE PHAR
       158   FILE PHIC
     15030   FILE PHIN
    404758   FILE TOXLINE
 76 FILES SEARCHED...
    443807   FILE TOXLIT
    132426   FILE USPATFULL
    123818   FILE WPIDS
    123818   FILE WPINDEX

 80 FILES HAVE ONE OR MORE ANSWERS,   80 FILES SEARCHED IN STNINDEX

L1   QUE PROTEIN OR POLYPEPTIDE OR ENZYME

=> s pressure

     17653   FILE AGRICOLA
     15922   FILE ALUMINIUM
      9192   FILE ANABSTR
    108089   FILE APILIT
```

```
    108089   FILE APILIT2
     19231   FILE BABS
       578   FILE BIOCOMMERCE
     17788   FILE BIOTECHNO
     58149   FILE CABA
     28715   FILE CAOLD
    739997   FILE CAPLUS
     12187   FILE CBNB
     42849   FILE CEABA
      1996   FILE CEN
      6430   FILE CERAB
     15564   FILE CIN
    296142   FILE COMPENDEX
     14717   FILE CONFSCI
     17221   FILE DKILIT
       683   FILE GENBANK
    274601   FILE INSPEC
     28656   FILE INSPHYS
    389978   FILE INVESTEXT
      9957   FILE IPA
    172701   FILE JICST-EPLUS
       294   FILE KOSMET
     68928   FILE METADEX
       828   FILE NAPRALERT
     13443   FILE NIOSHTIC
    127189   FILE NTIS
     27291   FILE PAPERCHEM2
    246781   FILE PROMT
32 FILES SEARCHED...
     34561   FILE RAPRA
      7861   FILE RUSSCI
    394617   FILE SCISEARCH
    102438   FILE TULSA
     91756   FILE TULSA2
     12488   FILE VTB
      6715   FILE WSCA
     14797   FILE ADISALERTS
       593   FILE ADISINSIGHT
      2180   FILE AIDSLINE
     18770   FILE AQUASCI
     11665   FILE BIOBUSINESS
    313731   FILE BIOSIS
      6286   FILE BIOTECHABS
      6286   FILE BIOTECHDS
     24624   FILE CANCERLIT
      1354   FILE CROPB
      4030   FILE CROPU
     20032   FILE DDFB
     65313   FILE DDFU
      3241   FILE DGENE
     20032   FILE DRUGB
       206   FILE DRUGLAUNCH
       369   FILE DRUGNL
     79539   FILE DRUGU
      2983   FILE EMBAL
    333942   FILE EMBASE
     43976   FILE ESBIOBASE
```

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      425   FILE FOMAD
       89   FILE FOREGE
    12775   FILE FROSTI
65 FILES SEARCHED...
    17959   FILE FSTA
     4799   FILE HEALSAFE
   445137   FILE IFIPAT
    27582   FILE LIFESCI
      308   FILE MEDICONF
   477340   FILE MEDLINE
    10508   FILE OCEAN
      800   FILE PHAR
       61   FILE PHIC
    10457   FILE PHIN
    88232   FILE TOXLINE
    84482   FILE TOXLIT
  1082528   FILE USPATFULL
   807640   FILE WPIDS
   807640   FILE WPINDEX

  78 FILES HAVE ONE OR MORE ANSWERS,   80 FILES SEARCHED IN STNINDEX

L2   QUE PRESSURE

=> s chaotrop?3 or urea or guanidi?4

          0*  FILE AGRICOLA
          0*  FILE ALUMINIUM
          0*  FILE ANABSTR
          0*  FILE APILIT
          0*  FILE APILIT2
          0*  FILE BABS
          0*  FILE BIOCOMMERCE
          0*  FILE BIOTECHNO
          0*  FILE CABA
          0*  FILE CAOLD
          0*  FILE CAPLUS
          0*  FILE CBNB
          0*  FILE CEABA
          0*  FILE CEN
          0*  FILE CERAB
          0*  FILE CIN
          0*  FILE COMPENDEX
          0*  FILE CONFSCI
          0*  FILE DKILIT
          0*  FILE GENBANK
          0*  FILE INSPEC
          0*  FILE INSPHYS
          0*  FILE INVESTEXT
          0*  FILE IPA
          0*  FILE JICST-EPLUS
          0*  FILE KOSMET
          0*  FILE METADEX
          0*  FILE NAPRALERT
          0*  FILE NIOSHTIC
          0*  FILE NTIS
          0*  FILE PAPERCHEM2
```

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          0*  FILE PROMT
          0*  FILE RAPRA
          0*  FILE RUSSCI
          0*  FILE SCISEARCH
          0*  FILE TULSA
          0*  FILE TULSA2
          0*  FILE USAN
          0*  FILE VTB
          0*  FILE WSCA
          0*  FILE ADISALERTS
          0*  FILE ADISINSIGHT
          0*  FILE AIDSLINE
          0*  FILE AQUASCI
          0*  FILE BIOBUSINESS
          0*  FILE BIOSIS
          0*  FILE BIOTECHABS
          0*  FILE BIOTECHDS
          0*  FILE CANCERLIT
          0*  FILE CROPB
          0*  FILE CROPU
          0*  FILE DDFB
          0*  FILE DDFU
          0*  FILE DGENE
          0*  FILE DRUGB
 55 FILES SEARCHED...
          0*  FILE DRUGLAUNCH
          0*  FILE DRUGMONOG2
          0*  FILE DRUGNL
          0*  FILE DRUGU
          0*  FILE EMBAL
          0*  FILE EMBASE
          0*  FILE ESBIOBASE
          0*  FILE FOMAD
          0*  FILE FOREGE
          0*  FILE FROSTI
          0*  FILE FSTA
          0*  FILE HEALSAFE
          0*  FILE IFIPAT
          0*  FILE LIFESCI
          0*  FILE MEDICONF
          0*  FILE MEDLINE
          0*  FILE OCEAN
          0*  FILE PHAR
          0*  FILE PHIC
          0*  FILE PHIN
          0*  FILE TOXLINE
          0*  FILE TOXLIT
          0*  FILE USPATFULL
          0*  FILE WPIDS
          0*  FILE WPINDEX

=> s chaotrop? or urea or guanidi?

       10998    FILE AGRICOLA
         148    FILE ALUMINIUM
        2918    FILE ANABSTR
        3745    FILE APILIT
```

```
     3745   FILE APILIT2
     4127   FILE BABS
       67   FILE BIOCOMMERCE
    10793   FILE BIOTECHNO
    49418   FILE CABA
    10810   FILE CAOLD
   148594   FILE CAPLUS
     8432   FILE CBNB
     1759   FILE CEABA
      189   FILE CEN
      118   FILE CERAB
     8291   FILE CIN
     5497   FILE COMPENDEX
     1039   FILE CONFSCI
     3285   FILE DKILIT
     7476   FILE GENBANK
     2059   FILE INSPEC
      424   FILE INSPHYS
     5393   FILE INVESTEXT
     1230   FILE IPA
    48665   FILE JICST-EPLUS
      195   FILE KOSMET
      465   FILE METADEX
      234   FILE NAPRALERT
     1868   FILE NIOSHTIC
     2243   FILE NTIS
     3913   FILE PAPERCHEM2
    11107   FILE PROMT
     4352   FILE RAPRA
      153   FILE RUSSCI
    40262   FILE SCISEARCH
      507   FILE TULSA
36 FILES SEARCHED...
      470   FILE TULSA2
      137   FILE USAN
      433   FILE VTB
     3228   FILE WSCA
     1234   FILE ADISALERTS
      179   FILE ADISINSIGHT
      421   FILE AIDSLINE
     1944   FILE AQUASCI
     5696   FILE BIOBUSINESS
    80432   FILE BIOSIS
     4572   FILE BIOTECHABS
     4572   FILE BIOTECHDS
     5834   FILE CANCERLIT
     5534   FILE CROPB
     4977   FILE CROPU
    23895   FILE DDFB
    20107   FILE DDFU
     1631   FILE DGENE
    23895   FILE DRUGB
      262   FILE DRUGLAUNCH
      799   FILE DRUGMONOG2
       18   FILE DRUGNL
    23354   FILE DRUGU
      348   FILE EMBAL
```

```
     45563   FILE EMBASE
      8935   FILE ESBIOBASE
         7   FILE FOREGE
      1023   FILE FROSTI
  65 FILES SEARCHED...
      3458   FILE FSTA
       216   FILE HEALSAFE
     20609   FILE IFIPAT
      9871   FILE LIFESCI
     69155   FILE MEDLINE
       630   FILE OCEAN
       229   FILE PHAR
         5   FILE PHIC
       446   FILE PHIN
     22579   FILE TOXLINE
     19773   FILE TOXLIT
     89847   FILE USPATFULL
     48181   FILE WPIDS
     48181   FILE WPINDEX

  78 FILES HAVE ONE OR MORE ANSWERS,   80 FILES SEARCHED IN STNINDEX

L3   QUE CHAOTROP? OR UREA OR GUANIDI?

=> s solubili? or aggregat? or disaggrega? or dissociat?

     16454   FILE AGRICOLA
      4092   FILE ALUMINIUM
      3445   FILE ANABSTR
     29036   FILE APILIT
     29036   FILE APILIT2
     26654   FILE BABS
       413   FILE BIOCOMMERCE
     48211   FILE BIOTECHNO
     41893   FILE CABA
     19541   FILE CAOLD
    509951   FILE CAPLUS
      1909   FILE CBNB
     10648   FILE CEABA
       912   FILE CEN
      2759   FILE CERAB
      3622   FILE CIN
     77971   FILE COMPENDEX
      6122   FILE CONFSCI
     24620   FILE DKILIT
      2543   FILE GENBANK
     87158   FILE INSPEC
  21 FILES SEARCHED...
     11156   FILE INSPHYS
    185328   FILE INVESTEXT
      6690   FILE IPA
     57816   FILE JICST-EPLUS
       531   FILE KOSMET
     23006   FILE METADEX
  27 FILES SEARCHED...
      1156   FILE NAPRALERT
      3040   FILE NIOSHTIC
```

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      27999   FILE NTIS
       7266   FILE PAPERCHEM2
      78088   FILE PROMT
      16857   FILE RAPRA
       2651   FILE RUSSCI
     224366   FILE SCISEARCH
      15175   FILE TULSA
      13281   FILE TULSA2
         16   FILE USAN
       2902   FILE VTB
       5220   FILE WSCA
       4019   FILE ADISALERTS
        593   FILE ADISINSIGHT
       2271   FILE AIDSLINE
      10666   FILE AQUASCI
       9751   FILE BIOBUSINESS
     206093   FILE BIOSIS
       7697   FILE BIOTECHABS
       7697   FILE BIOTECHDS
 48 FILES SEARCHED...
      27839   FILE CANCERLIT
        603   FILE CROPB
       3243   FILE CROPU
       7594   FILE DDFB
      22035   FILE DDFU
      12850   FILE DGENE
       7594   FILE DRUGB
        734   FILE DRUGLAUNCH
          1   FILE DRUGMONOG2
        754   FILE DRUGNL
      32486   FILE DRUGU
       1704   FILE EMBAL
     171155   FILE EMBASE
      40335   FILE ESBIOBASE
         26   FILE FOMAD
         68   FILE FOREGE
       7123   FILE FROSTI
 65 FILES SEARCHED...
      12617   FILE FSTA
       1081   FILE HEALSAFE
      37604   FILE IFIPAT
      49117   FILE LIFESCI
         32   FILE MEDICONF
     199922   FILE MEDLINE
       4266   FILE OCEAN
        865   FILE PHAR
          8   FILE PHIC
       1637   FILE PHIN
      43221   FILE TOXLINE
      38269   FILE TOXLIT
     223524   FILE USPATFULL
      87584   FILE WPIDS
      87584   FILE WPINDEX

 80 FILES HAVE ONE OR MORE ANSWERS,   80 FILES SEARCHED IN STNINDEX

L4   QUE SOLUBILI? OR AGGREGAT? OR DISAGGREGA? OR DISSOCIAT?
```

```
=> s l1 and l2 and l3 and l4

          5   FILE AGRICOLA
          1   FILE ANABSTR
          2   FILE APILIT
          2   FILE APILIT2
          1   FILE BABS
         30   FILE BIOTECHNO
          8   FILE CABA
  10 FILES SEARCHED...
         84   FILE CAPLUS
          1   FILE CEABA
         12   FILE CEN
          1   FILE COMPENDEX
          1   FILE DKILIT
          4   FILE INSPEC
          1   FILE INSPHYS
  22 FILES SEARCHED...
          1   FILE IPA
         24   FILE JICST-EPLUS
          1   FILE NIOSHTIC
          1   FILE NTIS
          1   FILE PAPERCHEM2
         12   FILE PROMT
         58   FILE SCISEARCH
  37 FILES SEARCHED...
          1   FILE ADISALERTS
          6   FILE AIDSLINE
          3   FILE AQUASCI
          3   FILE BIOBUSINESS
         64   FILE BIOSIS
          4   FILE BIOTECHABS
          4   FILE BIOTECHDS
         27   FILE CANCERLIT
  49 FILES SEARCHED...
          5   FILE DRUGU
          1   FILE EMBAL
  60 FILES SEARCHED...
         57   FILE EMBASE
         28   FILE ESBIOBASE
          4   FILE FSTA
         15   FILE IFIPAT
         18   FILE LIFESCI
  69 FILES SEARCHED...
        246   FILE MEDLINE
         21   FILE TOXLINE
          3   FILE TOXLIT
       9298   FILE USPATFULL
          4   FILE WPIDS
  79 FILES SEARCHED...
          4   FILE WPINDEX

  42 FILES HAVE ONE OR MORE ANSWERS,    80 FILES SEARCHED IN STNINDEX

L5   QUE L1 AND L2 AND L3 AND L4
```

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=> d rank

F1          9298   USPATFULL
F2           246   MEDLINE
F3            84   CAPLUS
F4            64   BIOSIS
F5            58   SCISEARCH
F6            57   EMBASE
F7            30   BIOTECHNO
F8            28   ESBIOBASE
F9            27   CANCERLIT
F10           24   JICST-EPLUS
F11           21   TOXLINE
F12           18   LIFESCI
F13           15   IFIPAT
F14           12   CEN
F15           12   PROMT
F16            8   CABA
F17            6   AIDSLINE
F18            5   AGRICOLA
F19            5   DRUGU
F20            4   INSPEC
F21            4   BIOTECHABS
F22            4   BIOTECHDS
F23            4   FSTA
F24            4   WPIDS
F25            4   WPINDEX
F26            3   AQUASCI
F27            3   BIOBUSINESS
F28            3   TOXLIT
F29            2   APILIT
F30            2   APILIT2
F31            1   ANABSTR
F32            1   BABS
F33            1   CEABA
F34            1   COMPENDEX
F35            1   DKILIT
F36            1   INSPHYS
F37            1   IPA
F38            1   NIOSHTIC
F39            1   NTIS
F40            1   PAPERCHEM2
F41            1   ADISALERTS
F42            1   EMBAL


=> file  f2-f13

COST IN U.S. DOLLARS                          SINCE FILE      TOTAL
                                                   ENTRY    SESSION
FULL ESTIMATED COST                               27.45      27.60

FILE 'MEDLINE' ENTERED AT 15:35:37 ON 03 NOV 2000

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=> s l1 and l2 and l3 and l4

   4 FILES SEARCHED...
   7 FILES SEARCHED...
  11 FILES SEARCHED...
L6          672 L1 AND L2 AND L3 AND L4

=> dup rem l6

PROCESSING IS APPROXIMATELY  88% COMPLETE FOR L6
PROCESSING COMPLETED FOR L6
L7           358 DUP REM L6 (314 DUPLICATES REMOVED)

=> s l1 (p) l2 (p) l3 (p) l4

   4 FILES SEARCHED...
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'L1 (P) L2'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'L2 (P) L3'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'L3 (P) L4'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'L1 (P) L2'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'L2 (P) L3'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
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FIELD CODE - 'AND' OPERATOR ASSUMED 'L3 (P) L4'
   7 FILES SEARCHED...
  11 FILES SEARCHED...
L8          357 L1 (P) L2 (P) L3 (P) L4

=> s l1 (w) l2 (w) l3 (w) l4

   4 FILES SEARCHED...
   7 FILES SEARCHED...
  10 FILES SEARCHED...
L9            0 L1 (W) L2 (W) L3 (W) L4

=> s l1 (w) l2 (w)  l4

   3 FILES SEARCHED...
   6 FILES SEARCHED...
   8 FILES SEARCHED...
L10           2 L1 (W) L2 (W) L4

=> dup rem l8

PROCESSING COMPLETED FOR L8
L11         104 DUP REM L8 (253 DUPLICATES REMOVED)

=> s l11 and l10

L12           0 L11 AND L10

=> s (l11 or l10) not py=2000

   8 FILES SEARCHED...
L13         101 (L11 OR L10) NOT PY=2000

=> s l13 and l3

L14          99 L13 AND L3

=> s l1 (l) l2 (l)  l4

   4 FILES SEARCHED...
   7 FILES SEARCHED...
  10 FILES SEARCHED...
L15        6253 L1 (L) L2 (L) L4

=> d l10 bib ab 1-2


L10  ANSWER 1 OF 2  CAPLUS  COPYRIGHT 2000 ACS
AN   1997:98437  CAPLUS
DN   126:211207
TI   The applicability of near-infrared reflectance spectroscopy for
     determining solubility and digestibility of heated protein under high
     pressure
AU   Cho, R. K.; Lee, J. H.; Ahn, J. J.; Ozaki, Y.; Iwamoto, M.
CS   Dep. Agricultural Chem., Kyung-pook National Univ., Taegu, 702-701, S.
     Korea
SO   J. Near Infrared Spectrosc. (1996), Volume Date 1995, 3(2), 73-79
```

CODEN: JNISEI; ISSN: 0967-0335
PB NIR Publications
DT Journal
LA English
AB The potential of near-IR (NIR) reflectance spectroscopy for non-destructively probing structural changes in protein during the process of denaturation was investigated. Lysozyme as a model protein was adjusted to 15% moisture content, placed in a steel cylinder and then heated at 30, 90, 120 and 150.degree.C under pressure conditions of 10, 15, 30 and 45 MPa. Significant changes were obsd. in absorption bands near 2144, 2168 and 2208 nm with increases in temp. and pressure. The spectral changes were, in general, much larger for samples subjected to both high temp. and pressure than for those subjected to high temp. only. It is likely that these changes are due to changes in the secondary structure of protein. Absorbance changes at the above wavelength showed high correlations to variations in soly. and digestibility of protein treated under high heat and pressure conditions. The results of multiple linear regression anal. suggest that NIR spectroscopy may be used to predict the soly. and digestibility of protein. These data are considered in relation to extrusion cooking.

L10 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2000 ACS
AN 1987:210233 CAPLUS
DN 106:210233
TI Slab gel electrophoresis of oligomeric proteins under high hydrostatic pressure. I. Description of the system and demonstration of the pressure dissociation of a dimer
AU Paladini, Alejandro A.; Silva, Jerson L.; Weber, Gregorio
CS Fac. Cienc. Exactas Nat., Univ. Buenos Aires, Buenos Aires, Argent.
SO Anal. Biochem. (1987), 161(2), 358-64
CODEN: ANBCA2; ISSN: 0003-2697
DT Journal
LA English
AB A high-pressure bomb was constructed to study the gel electrophoretic behavior of oligomeric proteins under pressure. The app. allows the use of a polyacrylamide slab gel with a capacity of up to 12 wells, therefore permitting the study of several samples in one expt. The electrophoresis mobility of different single-chain proteins under pressure decreased in the same proportion and the elution pattern was similar to that of the control run at atm. pressure. Densitometric anal. of the gel did not show peak spread or asym. boundaries, indicating that their conformations were not drastically affected. On the other hand, high-pressure electrophoresis of a dimer, the tryptophan synthase .beta.2 subunit, revealed the appearance of a second peak not present at atm. pressure. The mobility of the second peak was higher and its fraction increased by decreasing the protein concns., indicating that the extra peak was the dissocd. monomer. The sepn. under pressure occurs without drastic effects on the tertiary structure of the protein, which seems to furnish a method to study dissocn. processes and to sep. the constituent polypeptides of oligomeric complexes.

=> dup rem l14

PROCESSING COMPLETED FOR L14
L16 99 DUP REM L14 (0 DUPLICATES REMOVED)

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=> index chem

'CHEM' IS AN AMBIGUOUS REFERENCE
 CHEMENG           - Chemical Engineering Cluster
 CHEMISTRY         - Chemical Literature Cluster
 CHEMCATS          - CHEMICAL CATALOGS ONLINE 1993-1997
 CHEMINFORMRX      - The CHEMINFORMRX Reaction Search Service
 CHEMLIST          - Regulated Chemicals Listing
 CHEMREACT         - The CHEMREACT Reaction Search System
 CHEMSAFE          - CHEMSAFE - chemical safety information
ENTER A FILE OR CLUSTER NAME (IGNORE):chemist

FILE 'PAPERCHEM' ACCESS NOT AUTHORIZED
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                                                         ENTRY    SESSION
FULL ESTIMATED COST                                      99.00     126.60

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                                                         ENTRY    SESSION
CA SUBSCRIBER PRICE                                      -1.11      -1.11

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       CONFSCI, DKILIT, GENBANK, INSPEC, INSPHYS, INVESTEXT, IPA, JICST-EPLUS,
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2000

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=> d l16 ti 1-

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=> d  ti 1-

DISPLAY L# IS NOT VALID IN STNINDEX
Answer set was created in a file.  Enter DISPLAY HISTORY to see where
the answer set was created.  Use the File command to change to that
file, then display the answer.

=> file  f2-f13

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                                                         ENTRY    SESSION
FULL ESTIMATED COST                                       0.45     127.05

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CA SUBSCRIBER PRICE                                       0.00      -1.11

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FILE 'SCISEARCH' ENTERED AT 15:52:17 ON 03 NOV 2000

FILE 'EMBASE' ENTERED AT 15:52:17 ON 03 NOV 2000

FILE 'BIOTECHNO' ENTERED AT 15:52:17 ON 03 NOV 2000

FILE 'ESBIOBASE' ENTERED AT 15:52:17 ON 03 NOV 2000

FILE 'CANCERLIT' ENTERED AT 15:52:17 ON 03 NOV 2000

FILE 'JICST-EPLUS' ENTERED AT 15:52:17 ON 03 NOV 2000

FILE 'TOXLINE' ENTERED AT 15:52:17 ON 03 NOV 2000

FILE 'LIFESCI' ENTERED AT 15:52:17 ON 03 NOV 2000

FILE 'IFIPAT' ENTERED AT 15:52:17 ON 03 NOV 2000

=> d l16 ti 1-

YOU HAVE REQUESTED DATA FROM 99 ANSWERS - CONTINUE? Y/(N):y

L16 ANSWER 1 OF 99 MEDLINE
TI High pressure fosters protein refolding from aggregates at high concentrations.

L16 ANSWER 2 OF 99 MEDLINE
TI Protein folding in the absence of chemical denaturants. Reversible pressure denaturation of the noncovalent complex formed by the association of two protein fragments.

L16 ANSWER 3 OF 99 MEDLINE
TI Low temperature and pressure stability of picornaviruses: implications for virus uncoating.

L16 ANSWER 4 OF 99 MEDLINE
TI Polymorphism of turnip yellow mosaic virus empty shells and evidence for conformational changes occurring after release of the viral RNA. A differential scanning calorimetric study.

L16 ANSWER 92 OF 99 CAPLUS COPYRIGHT 2000 ACS
TI Chemistry of lens nuclear sclerosis

L16 ANSWER 93 OF 99 CAPLUS COPYRIGHT 2000 ACS
TI Protein complement of a Cyanophyceae, Spirulina platensis

L16 ANSWER 94 OF 99 CAPLUS COPYRIGHT 2000 ACS
TI Isoelectric separation of urinary Bence-Jones proteins and light chains of human IgG

L16 ANSWER 95 OF 99 CAPLUS COPYRIGHT 2000 ACS
TI Purification and subunit structure of glutathione reductase from bakers' yeast

L16 ANSWER 96 OF 99 CAPLUS COPYRIGHT 2000 ACS
TI Chemistry of hemoglobin. II. Effect of salts on the dissociation

L16 ANSWER 97 OF 99 CAPLUS COPYRIGHT 2000 ACS
TI Radiation-produced aggregation and inactivation in egg white lysozyme

L16 ANSWER 98 OF 99 CAPLUS COPYRIGHT 2000 ACS
TI Determination of the subunits of arachin by osmometry. Arachins A, B, and A1

L16 ANSWER 99 OF 99 CAPLUS COPYRIGHT 2000 ACS
TI Effect of ionic strength on the molecular weight and conformation of wheat gluten proteins in 3M ***urea*** solutions

=> s l16 not (osmotic (w) pressure)

L17 93 L16 NOT (OSMOTIC (W) PRESSURE)

=> s l16 not (pressure (w) liquid)

L18 78 L16 NOT (PRESSURE (W) LIQUID)

=> d bib abs 1- l18

YOU HAVE REQUESTED DATA FROM 78 ANSWERS - CONTINUE? Y/(N):y

L18 ANSWER 1 OF 78 MEDLINE
AN 2000027494 MEDLINE
DN 20027494
TI High pressure fosters protein refolding from aggregates at high concentrations.
AU St John R J; Carpenter J F; Randolph T W
CS Department of Chemical Engineering, University of Colorado, Boulder, CO 80309, USA.
SO PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, (1999 Nov 9) 96 (23) 13029-33.
Journal code: PV3. ISSN: 0027-8424.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals

L16 ANSWER 92 OF 99 CAPLUS COPYRIGHT 2000 ACS
TI Chemistry of lens nuclear sclerosis

L16 ANSWER 93 OF 99 CAPLUS COPYRIGHT 2000 ACS
TI Protein complement of a Cyanophyceae, Spirulina platensis

L16 ANSWER 94 OF 99 CAPLUS COPYRIGHT 2000 ACS
TI Isoelectric separation of urinary Bence-Jones proteins and light chains of human IgG

L16 ANSWER 95 OF 99 CAPLUS COPYRIGHT 2000 ACS
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L16 ANSWER 96 OF 99 CAPLUS COPYRIGHT 2000 ACS
TI Chemistry of hemoglobin. II. Effect of salts on the dissociation

L16 ANSWER 97 OF 99 CAPLUS COPYRIGHT 2000 ACS
TI Radiation-produced aggregation and inactivation in egg white lysozyme

L16 ANSWER 98 OF 99 CAPLUS COPYRIGHT 2000 ACS
TI Determination of the subunits of arachin by osmometry. Arachins A, B, and A1

L16 ANSWER 99 OF 99 CAPLUS COPYRIGHT 2000 ACS
TI Effect of ionic strength on the molecular weight and conformation of wheat gluten proteins in 3M ***urea*** solutions

=> s l16 not (osmotic (w) pressure)

L17 93 L16 NOT (OSMOTIC (W) PRESSURE)

=> s l16 not (pressure (w) liquid)

L18 78 L16 NOT (PRESSURE (W) LIQUID)

=> d bib abs 1- l18

YOU HAVE REQUESTED DATA FROM 78 ANSWERS - CONTINUE? Y/(N):y

L18 ANSWER 1 OF 78 MEDLINE
AN 2000027494 MEDLINE
DN 20027494
TI High pressure fosters protein refolding from aggregates at high concentrations.
AU St John R J; Carpenter J F; Randolph T W
CS Department of Chemical Engineering, University of Colorado, Boulder, CO 80309, USA.
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Journal code: PV3. ISSN: 0027-8424.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals

EM 200002
EW 20000204
AB High hydrostatic ***pressures*** (1-2 kbar), combined with low, nondenaturing concentrations of ***guanidine*** hydrochloride (GdmHCl) foster ***disaggregation*** and refolding of denatured and ***aggregated*** human growth hormone and lysozyme, and beta-lactamase inclusion bodies. One hundred percent recovery of properly folded ***protein*** can be obtained by applying ***pressures*** of 2 kbar to suspensions containing ***aggregates*** of recombinant human growth hormone (up to 8.7 mg/ml) and 0.75 M GdmHCl. Covalently crosslinked, insoluble ***aggregates*** of lysozyme could be refolded to native, functional ***protein*** at a 70% yield, independent of ***protein*** concentration up to 2 mg/ml. Inclusion bodies containing beta-lactamase could be refolded at high yields of active ***protein*** , even without added GdmHCl.

L18 ANSWER 2 OF 78 MEDLINE
AN 1999421705 MEDLINE
DN 99421705
TI Polymorphism of turnip yellow mosaic virus empty shells and evidence for conformational changes occurring after release of the viral RNA. A differential scanning calorimetric study.
AU Michels B; Leimkuhler M; Lechner M D; Adrian M; Lorber B; Witz J
CS Laboratoire de Dynamique des Fluides Complexes, UMR 7506 du CNRS, France.
SO EUROPEAN JOURNAL OF BIOCHEMISTRY, (1999 Sep) 264 (3) 965-72.
Journal code: EMZ. ISSN: 0014-2956.
CY GERMANY: Germany, Federal Republic of
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals
EM 199912
EW 19991203
AB Turnip yellow mosaic virus (TYMV) is a small isometric plant virus which decapsidates by releasing its RNA through a hole in the capsid, leaving behind an empty shell [R. E. F. Matthews and J. Witz, (1985) Virology 144, 318-327]. Similar empty shells (artificial top component, ATC) can be obtained by submitting the virions to various treatments in vitro. We have used differential scanning calorimetry, analytical sedimentation, and electron microscopy to investigate the thermodenaturation of natural empty shells (NTC, natural top component) present in purified virus suspensions, and of several types of ATCs. ATCs divided in two major classes. Those obtained by alkaline titration, by the action of ***urea*** or butanol behaved as NTC: their thermograms contained only one peak corresponding to the irreversible ***dissociation*** of the shells and the denaturation of the coat ***protein*** . The temperature of this unique transition varied significantly with pH, from 71 degrees C at pH 4.5 to 84 degrees C at pH 8.5. The thermograms of ATCs obtained by freezing and thawing, or by the action of high ***pressure*** , contained two peaks: shells ***dissociated*** first into smaller ***protein*** ***aggregates*** at 57 degrees C (at pH 5.0) to 61 degrees C (at pH 8.5), which denatured at the temperature of the unique transition of NTC. Shells obtained by heating virions to 55 degrees C at pH 7.6, changed conformation after the release of the viral RNA, as upon continuous heating to 95 degrees C, their thermograms were similar to those of the shells obtained by freezing and thawing, whereas after purification they behaved like NTC. Structural implications of these observations are discussed.

L18 ANSWER 3 OF 78 MEDLINE
AN 1999262854 MEDLINE
DN 99262854
TI Pressure-jump studies of the folding/unfolding of trp repressor.
AU Desai G; Panick G; Zein M; Winter R; Royer C A
CS School of Pharmacy, University of Wisconsin-Madison, 425 N Charter, Madison, WI, 53706, USA.
SO JOURNAL OF MOLECULAR BIOLOGY, (1999 May 7) 288 (3) 461-75.
Journal code: J6V. ISSN: 0022-2836.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals
EM 199908
AB The dimeric ***protein*** , trp apo-repressor of Escherichia coli has been subjected to high hydrostatic ***pressure*** under a variety of conditions, and the effects have been monitored by fluorescence spectroscopic and infra-red absorption techniques. Under conditions of micromolar ***protein*** concentration and low, non-denaturing concentrations of ***guanidinium*** hydrochloride (GuHCl), tryptophan and 8-anilino-1-naphthalene sulfonate (ANS) fluorescence detected high ***pressure*** profiles demonstrate that ***pressures*** below 3 kbar result in ***dissociation*** of the dimer to a monomeric species that presents no hydrophobic binding sites for ANS. The FTIR-detected high ***pressure*** profile obtained under significantly different solution conditions (30 mM trp repressor in absence of denaturant) exhibits a much smaller ***pressure*** dependence than the fluorescence detected profiles. The ***pressure*** -denatured form obtained under the FTIR conditions retains about 50 % alpha-helical structure. From this we conclude that the secondary structure present in the high ***pressure*** state achieved under the conditions of the fluorescence experiments is at least as disrupted as that achieved under FTIR conditions. Fluorescence-detected ***pressure*** -jump relaxation studies in the presence of non-denaturing concentrations of GuHCl reveal a positive activation volume for the association/folding reaction and a negative activation volume for ***dissociation*** /unfolding reaction, implicating dehydration as the rate-limiting step for association/folding and hydration as the rate-limiting step for unfolding. The GuHCl concentration dependence of the kinetic parameters place the transition state at least half-way along the reaction coordinate between the unfolded and folded states. The temperature dependence of the ***pressure*** -jump fluorescence-detected ***dissociation*** /unfolding reaction in the presence of non-denaturing GuHCl suggests that the curvature in the temperature dependence of the stability arises from non-Arrhenius behavior of the folding rate constant, consistent with a large decrease in heat capacity upon formation of the transition state from the unfolded state. The decrease in the equilibrium volume change for folding with increasing temperature (due to differences in thermal expansivity of the folded and unfolded states) arises from a decrease in the absolute value for the activation volume for unfolding, thus indicating that the thermal expansivity of the transition state is similar to that of the unfolded state. Copyright 1999 Academic Press.

L18 ANSWER 4 OF 78 MEDLINE
AN 1999175143 MEDLINE
DN 99175143

TI Protein folding in the absence of chemical denaturants. Reversible pressure denaturation of the noncovalent complex formed by the association of two protein fragments.

AU Mohana-Borges R; Lima Silva J; de Prat-Gay G

CS Centro Nacional de Ressonancia Magnetica Nuclear de Macromoleculas, Departamento de Bioquimica Medica-ICB, Universidade Federal do Rio de Janeiro, 21941-590 Rio de Janeiro, RJ, Brazil.

SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1999 Mar 19) 274 (12) 7732-40.
Journal code: HIV. ISSN: 0021-9258.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals; Cancer Journals

EM 199906

EW 19990603

AB Small monomeric ***proteins*** are the best models for studying ***protein*** folding, but they are often too stable for denaturation using ***pressure*** as the sole perturbant. In the present work we subject [CI-2(1-40).(41-64)], a noncovalent complex formed by the association of two complementary fragments of the chymotrypsin inhibitor-2, to high ***pressure*** to investigate the folding mechanism of a model ***protein*** . ***Pressures*** up to 3.5 kilobar do not affect the intact ***protein*** , but it can be unfolded reversibly by ***pressure*** in the presence of subdenaturing concentrations of ***guanidine*** chloride, with free energy and molar volume changes of 2.5 kcal mol-1 and 42.5 ml mol-1, respectively. In contrast, the complex can be reversibly denatured by high ***pressure*** without the addition of chemical denaturants. However, the process is clearly independent of the ***protein*** concentration, indicating lack of ***dissociation*** . We determined a change in the free energy of 1.4 kcal mol-1 and a molar volume change of 35 ml mol-1 for the ***pressure*** denaturation of the complex. A persistent quenching of the tryptophan adds further evidence for the presence of residual structure in the high ***pressure*** -denatured state. This state also appears to be compact as the small volume change indicates, compared with ***pressure*** denaturation of naturally occurring dimers. Based on observations of a number of ***pressure*** -denatured states and on characteristics of large CI-2 fragments with a solvent accessible core but maintaining tertiary interactions, the structure of the ***pressure*** -denatured state of the CI-2 complex could be explained by an ordered molten globule-like conformation.

L18 ANSWER 5 OF 78 MEDLINE

AN 1999158604 MEDLINE

DN 99158604

TI Low temperature and pressure stability of picornaviruses: implications for virus uncoating.

AU Oliveira A C; Ishimaru D; Goncalves R B; Smith T J; Mason P; Sa-Carvalho D; Silva J L

CS Programa de Biologia Estrutural, Centro Nacional de Ressonancia Magnetica Nuclear de Macromoleculas, Departamento de Bioquimica Medica-ICB, Universidade Federal do Rio de Janeiro, 21941-590 Rio de Janeiro, RJ, Brazil.

SO BIOPHYSICAL JOURNAL, (1999 Mar) 76 (3) 1270-9.
Journal code: A5S. ISSN: 0006-3495.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English
FS Priority Journals
EM 199906
EW 19990602
AB The family Picornaviridae includes several viruses of great economic and medical importance. Poliovirus replicates in the human digestive tract, causing disease that may range in severity from a mild infection to a fatal paralysis. The human rhinovirus is the most important etiologic agent of the common cold in adults and children. Foot-and-mouth disease virus (FMDV) causes one of the most economically important diseases in cattle. These viruses have in common a capsid structure composed of 60 copies of four different ***proteins*** , VP1 to VP4, and their 3D structures show similar general features. In this study we describe the differences in stability against high ***pressure*** and cold denaturation of these viruses. Both poliovirus and rhinovirus are stable to high ***pressure*** at room temperature, because ***pressures*** up to 2.4 kbar are not enough to promote viral disassembly and inactivation. Within the same ***pressure*** range, FMDV particles are dramatically affected by ***pressure*** , with a loss of infectivity of more than 4 log units observed. The ***dissociation*** of polio and rhino viruses can be observed only under ***pressure*** (2.4 kbar) at low temperatures in the presence of subdenaturing concentrations of ***urea*** (1-2 M). The ***pressure*** and low temperature data reveal clear differences in stability among the three picornaviruses, FMDV being the most sensitive, polio being the most resistant, and rhino having intermediate stability. Whereas rhino and poliovirus differ little in stability (less than 10 kcal/mol at 0 degrees C), the difference in free energy between these two viruses and FMDV was remarkable (more than 200 kcal/mol of particle). These differences are crucial to understanding the different factors that control the assembly and disassembly of the virus particles during their life cycle. The inactivation of these viruses by ***pressure*** (combined or not with low temperature) has potential as a method for producing vaccines.

L18 ANSWER 6 OF 78 MEDLINE
AN 1999006570 MEDLINE
DN 99006570
TI Aggregation states of mitochondrial malate dehydrogenase.
AU Sanchez S A; Hazlett T L; Brunet J E; Jameson D M
CS Instituto de Quimica, Universidad Catolica de Valparaiso, Chile.
NC RR03155 (NCRR)
SO PROTEIN SCIENCE, (1998 Oct) 7 (10) 2184-9.
Journal code: BNW. ISSN: 0961-8368.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199903
EW 19990304
AB The oligomeric state of fluorescein-labeled mitochondrial malate dehydrogenase (L-malate NAD+ oxidoreductase; mMDH; EC 1.1.1.37), as a function of ***protein*** concentration, has been examined using steady-state and dynamic polarization methodologies. A "global" rotational relaxation time of 103 +/- 7 ns was found for micromolar concentrations of mMDH-fluorescein, which is consistent with the reported size and shape of mMDH. Dilution of the mMDH-fluorescein conjugates, prepared using a

phosphate buffer protocol, to nanomolar concentrations had no significant effect on the rotational relaxation time of the adduct, indicating that the dimer-monomer ***dissociation*** constant for mMDH is below 10(-9) M. In contrast to reports in the literature suggesting a pH-dependent ***dissociation*** of mMDH, the oligomeric state of this mMDH-fluorescein preparation remained unchanged between pH 5.0 and 8.0. Application of hydrostatic ***pressure*** up to 2.5 kilobars was ineffective in ***dissociating*** the mMDH dimer. However, the mMDH dimer was completely ***dissociated*** in 1.5 M ***guanidinium*** hydrochloride. Dilution of a mMDH-fluorescein conjugate, prepared using a Tris buffer protocol, did show ***dissociation*** , which can be attributed to ***aggregates*** present in these preparations. These results are considered in light of the disparities in the literature concerning the properties of the mMDH dimer-monomer equilibrium.

L18 ANSWER 7 OF 78 MEDLINE
AN 1998359787 MEDLINE
DN 98359787
TI Tobacco mosaic virus disassembly by high hydrostatic pressure in combination with ***urea*** and low temperature.
AU Bonafe C F; Vital C M; Telles R C; Goncalves M C; Matsuura M S; Pessine F B; Freitas D R; Vega J
CS Departamento de Bioquimica, Instituto de Biologia, Universidade Estadual de Campinas, SP, Brazil.
SO BIOCHEMISTRY, (1998 Aug 4) 37 (31) 11097-105.
Journal code: A0G. ISSN: 0006-2960.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199810
EW 19981005
AB We investigated the effect of low temperature and ***urea*** combined with high ***pressure*** on tobacco mosaic virus (TMV). The evaluation of its ***aggregation*** state and denaturation process was studied using gel filtration, transmission electron microscopy, and spectroscopic methods. The incubation at 2.5 kbar induced 18% ***dissociation*** , and decreasing of temperature to -19 degreesC promoted additional ***dissociation*** to 72%, with stabilization of the ***dissociation*** products. Under such conditions, extensive denaturation did not occur. The apparent enthalpy and entropy of ***dissociation*** (Delta and TDelta) were -9.04 kcal/mol subunit and -15.1 kcal/mol subunit, respectively, indicating that the TMV association is an entropicly driven process. The apparent free energy of stabilization given by the presence of RNA is at least -1.7 kcal/mol subunit. ***Urea*** -induced ***dissociation*** of TMV samples and incubation at high- ***pressure*** promoted a higher degree of ***dissociation*** . The volume change of ***dissociation*** decreased in magnitude from -16.3 to -3.1 mL/mol of ***dissociated*** subunit, respectively, in the absence and presence of 2.5 M ***urea*** , suggesting exposure of the ***protein*** - ***protein*** interface to the solvent. High- ***pressure*** induced remarkable TMV denaturation in the presence of 2.5 M ***urea*** , with a volume change of -101 mL/mol of denatured subunit. The apparent enthalpy and entropy of denaturation (Delta and TDelta) by 1.75 M ***urea*** at 2.5 kbar was -11.1 and -10.2 kcal/mol subunit, respectively, demonstrating that the TMV ***protein*** coat presents an apparent free energy of denaturation by

urea close to zero. Although the processes could not be assumed to be pure equilibria, these thermodynamic parameters could be derived by assuming a steady-state condition.

L18 ANSWER 8 OF 78 MEDLINE
AN 1998226654 MEDLINE
DN 98226654
TI High hydrostatic pressure can reverse aggregation of protein folding intermediates and facilitate acquisition of native structure.
AU Gorovits B M; Horowitz P M
CS Department of Biochemistry, University of Texas Health Science Center at San Antonio, Texas 78284, USA.
SO BIOCHEMISTRY, (1998 Apr 28) 37 (17) 6132-5.
Journal code: A0G. ISSN: 0006-2960.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199807
EW 19980704
AB The present work demonstrates that high hydrostatic ***pressure*** can increase ***protein*** folding by reducing nonspecific ***aggregation*** . ***Protein*** ***aggregation*** is one of the main side reactions that competes with ***protein*** folding, and it typically results from interactions among partially folded intermediates. It is known that oligomeric ***proteins*** can be ***dissociated*** by the application of high hydrostatic ***pressure*** . Since ***protein*** ***aggregates*** can be described as nonspecific ***protein*** oligomers, it can be predicted that they can be completely or partially ***dissociated*** by ***pressure*** . The ***enzyme*** rhodanese is prone to slow ***aggregation*** in 3.9 M ***urea*** , and it is widely used as a model for the folding of a ***protein*** which readily ***aggregates*** . In the present study, it was demonstrated that this ***aggregation*** process could be completely reversed under high hydrostatic ***pressure*** . Release of the ***pressure*** led to renewed ***protein*** ***aggregation*** . In addition, it was demonstrated that refolding of ***urea*** -denatured rhodanese at 2 kbar ***pressure*** led to an increased yield of the native ***enzyme*** . The final recovery was increased up to approximately 25% in contrast to approximately 5% recovery observed under ambient ***pressure*** . The recovery can be further increased in the presence of 4 M glycerol, where 56% of the ***protein*** was recovered by treatment with high ***pressure*** . These observations suggest that some ***protein*** ***aggregation*** can be limited without the use of chemical additives, and they show that the ***pressures*** needed to maintain ***solubility*** are considerably less than those typically required for ***dissociation*** of specific oligomers and unfolding of ***polypeptide*** chains.

L18 ANSWER 9 OF 78 MEDLINE
AN 1998204901 MEDLINE
DN 98204901
TI Characterization of a partially folded monomer of the DNA-binding domain of human papillomavirus E2 protein obtained at high pressure.

AU Foguel D; Silva J L; de Prat-Gay G
CS Programa de Biologia Estrutural, Departamento de Bioquimica Medica-ICB, Centro Nacional de Ressonancia Magnetica Nuclear de Macromoleculas, Universidade Federal do Rio de Janeiro, 21941-590 Rio de Janeiro, Brazil.
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1998 Apr 10) 273 (15) 9050-7. Journal code: HIV. ISSN: 0021-9258.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals
EM 199807
EW 19980703
AB The ***pressure*** -induced ***dissociation*** of the dimeric DNA binding domain of the E2 ***protein*** of human papillomavirus (E2-DBD) is a reversible process with a Kd of 5.6 x 10(-8) M at pH 5.5. The complete exposure of the intersubunit tryptophans to water, together with the concentration dependence of the ***pressure*** effect, is indicative of ***dissociation*** . ***Dissociation*** is accompanied by a decrease in volume of 76 ml/mol, which corresponds to an estimated increase in solvent-exposed area of 2775 A2. There is a decrease in fluorescence polarization of tryptophan overlapping the red shift of fluorescence emission, supporting the idea that ***dissociation*** of E2-DBD occurs in parallel with major changes in the tertiary structure. The dimer binds bis(8-anilinonaphthalene-1-sulfonate), and ***pressure*** reduces the binding by about 30%, in contrast with the almost complete loss of dye binding in the ***urea*** -unfolded state. These results strongly suggest the persistence of substantial residual structure in the high ***pressure*** state. Further unfolding of the high ***pressure*** state was produced by low concentrations of ***urea*** , as evidenced by the complete loss of bis(8-anilinonaphthalene-1-sulfonate) binding with less than 1 M ***urea*** . Following ***pressure*** ***dissociation*** , a partially folded state is also apparent from the distribution of excited state lifetimes of tryptophan. The combined data show that the tryptophans of the ***protein*** in the ***pressure*** - ***dissociated*** state are exposed long enough to undergo solvent relaxation, but the persistence of structure is evident from the observed internal quenching, which is absent in the completely unfolded state. The average rotational relaxation time (derived from polarization and lifetime data) of the ***pressure*** -induced monomer is shorter than the ***urea*** -denatured state, suggesting that the species obtained under ***pressure*** are more compact than that unfolded by ***urea*** .

L18 ANSWER 10 OF 78 MEDLINE
AN 1998008742 MEDLINE
DN 98008742
TI Partially folded states of the capsid protein of cowpea severe mosaic virus in the disassembly pathway.
AU Gaspar L P; Johnson J E; Silva J L; Da Poian A T
CS Instituto de Ciencias Biomedicas, Universidade Federal do Rio de Janeiro, Rio de Janeiro, RJ, 21941-590, Brazil.
SO JOURNAL OF MOLECULAR BIOLOGY, (1997 Oct 24) 273 (2) 456-66. Journal code: J6V. ISSN: 0022-2836.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals

EM 199802
EW 19980204
AB The different partially folded states of the capsid ***protein*** that appear in the disassembly pathway of cowpea severe mosaic virus (CPSMV) were investigated by examining the effects of hydrostatic ***pressure*** , sub-zero temperatures and ***urea*** . The conformational states of the coat ***protein*** were analyzed by their intrinsic fluorescence, binding of bis(8-anilinonaphthalene-1-sulfonate) (bis-ANS) and susceptibility to trypsin digestion. CPSMV could be disassembled by ***pressure*** at 2.5 kbar. Intrinsic fluorescence and hydrodynamic measurements showed that ***pressure*** -induced ***dissociation*** was completely reversible. Virus pressurization in the presence of ribonuclease revealed that viral RNA was not exposed, since it was not digested by the ***enzyme*** , suggesting the maintenance of ***protein*** -nucleic acid interactions under ***pressure*** . When the temperature was decreased to -10 degrees C under ***pressure*** , CPSMV disassembly became an irreversible process and in this condition, viral RNA was completely digested by ribonuclease. These results suggest a relationship between ***protein*** -RNA interactions and CPSMV assembly. Bis-ANS binding and trypsin digestion of coat ***proteins*** revealed that they assume a different conformation when they are denatured by low temperatures under ***pressure*** or than when they are denatured by ***urea*** at atmospheric ***pressure*** . The results indicate that the coat ***proteins*** can exist in at least four states: (1) The native conformation in the virus capsid; (2) bound to RNA when the virus is ***dissociated*** by ***pressure*** at room temperature, assuming a conformation that retains the information for reassembly; (3) free subunits in a molten-globule conformation when the virus is ***dissociated*** by low temperature under ***pressure*** ; and (4) free subunits completely unfolded by high concentrations of ***urea*** .

L18 ANSWER 11 OF 78 MEDLINE
AN 97361969 MEDLINE
DN 97361969
TI Pressure-induced dissociation of yeast glyceraldehyde-3-phosphate dehydrogenase: heterogeneous kinetics and perturbations of subunit structure.
AU Cioni P; Strambini G B
CS Consiglio Nazionale delle Ricerche, Istituto di Biofisica, Via S. Lorenzo, 26, 56127 Pisa, Italy.
SO BIOCHEMISTRY, (1997 Jul 15) 36 (28) 8586-93.
Journal code: A0G. ISSN: 0006-2960.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199710
AB In studies of ***pressure*** -induced subunit ***dissociation*** of oligomeric ***proteins*** , the thermodynamic ***dissociation*** constant and the ***dissociation*** volume change are derived by assuming that high ***pressure*** itself does not significantly perturb the structure of both oligomer and isolated subunit. In this report, the intrinsic phosphorescence emission of Trp reveals that high-***pressure*** ***dissociation*** of tetrameric yeast glyceraldehyde-3-phosphate dehydrogenase results in a dramatic shortening of the phosphorescence lifetime, from 300 to less than 2 ms, that is

consistent with a profound loosening of the ***polypeptide*** structure about the phosphorescence probe. On ***pressure*** release, subunit reassociation occurs readily whereas recovery of the native phosphorescence properties is a very slow, thermally activated, process which goes hand in hand with the recovery of the catalytic activity. Further, the comparison between the kinetic traces that describe the degree of ***dissociation*** and the change in phosphorescence lifetime, at various applied ***pressures*** , has established the following: (1) that high ***pressure*** plays a direct role on the structural rearrangement, the extent of which increases with ***pressure*** ; (2) that the conformational change in the monomer is concomitant with, or follows closely after, the break up of the tetramer, in any case long before an apparent tetramer-monomer equilibrium is established; (3) that native tetramers are highly heterogeneous with regard to their rate of ***dissociation*** . The influence of temperature, of ***protein*** concentration, of binding of NAD+, and of the addition of 2 M ***urea*** on the ***dissociation*** /phosphorescence kinetic profiles was also examined. The complications arising from these conformational changes for the derivation of the ***dissociation*** free energy change as well as their relevance for understanding the lack of concentration dependence of the degree of ***dissociation*** are discussed.

L18 ANSWER 12 OF 78 MEDLINE
AN 97228533 MEDLINE
DN 97228533
TI Structure of pressure-induced denatured state of human serum albumin: a comparison with the intermediate in ***urea*** -induced denaturation.
AU Tanaka N; Nishizawa H; Kunugi S
CS Department of Polymer Science and Engineering, Kyoto Institute of Technology, Japan.
SO BIOCHIMICA ET BIOPHYSICA ACTA, (1997 Mar 7) 1338 (1) 13-20.
Journal code: A0W. ISSN: 0006-3002.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals
EM 199706
EW 19970603
AB The structure of human serum albumin (HSA) in the ***pressure*** -induced denatured state was investigated by fluorescence spectroscopy. HSA undergoes a conformational change in the ***pressure*** range from 0.1 MPa to 400 MPa, at 25 degrees C. Several ligands bind to specific sites in HSA, and the fluorescence spectra of these ligands were used to study the conformational state of this ***protein*** . The warfarin-binding site (site I) and the dansylsarcosine-binding site (site II), are located in subdomains II and III, respectively. The fluorescence spectra of these probes reflected the structural changes in each of these subdomains. Dansylsarcosine completely ***dissociated*** from its binding site in domain III above 300 MPa, but substantial affinity of warfarin remained in this ***pressure*** range. Similar results were obtained for the ***urea*** -induced denaturation of HSA; although dansylsarcosine completely ***dissociated*** at ***urea*** concentration above 6 M, warfarin remained bound to site I in domain II at these concentrations. These results suggest that the structure of domain III is unfolded both in the initial stages of both ***pressure*** - and ***urea*** -induced denaturation of HSA. HSA possesses a single

tryptophan residue (Trp-214) in domain II, and fluorescence from this residue reflects structural changes in this domain. In the ***urea*** -induced denatured state of HSA, a red-shift in the wavelength of maximum fluorescence occurred over ***urea*** concentrations ranging from 4 M to 6 M. This shift indicated that a structural change in domain II occurred simultaneously with the unfolding of domain III in this concentration range. On other hand, the shift in the wavelength of maximum fluorescence of Trp-214 was comparatively small in the ***pressure*** range from 0.1 MPa to 400 MPa indicating that the environment of Trp-214 was not affected. These results indicate that preferential unfolding of domain III occurs in the ***pressure*** -induced denatured state of HSA.

L18 ANSWER 13 OF 78 MEDLINE
AN 97103204 MEDLINE
DN 97103204
TI Pressure effects on the structure of oligomeric proteins prior to subunit dissociation.
AU Cioni P; Strambini G B
CS C.N.R.-Istituto di Biofisica, Pisa, Italy.
SO JOURNAL OF MOLECULAR BIOLOGY, (1996 Nov 15) 263 (5) 789-99.
Journal code: J6V. ISSN: 0022-2836.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals
EM 199703
AB In studies of ***pressure*** -induced subunit ***dissociation*** of ***protein*** ***aggregates*** , now widely used to evaluate the association free energy, entropy and enthalpy of very stable complexes, it is assumed that high ***pressure*** does not influence their structure/thermodynamic parameters and that some peculiarities of these equilibria, such as the decrease in subunit affinity at larger degrees of ***dissociation*** (alpha) and hysteresis in alpha/ ***pressure*** diagrams are imputable to the slow conformational drift of isolated subunits. To test this premise, the conformation of dimeric alcohol dehydrogenase from horse liver and alkaline phosphatase from Escherichia coli was monitored as a function of ***pressure*** (up to 3 kbar) and temperature (0 to 50 degrees C) by means of the intrinsic Trp fluorescence and phosphorescence emission and binding of the 1-anilinonaphatalene-8-sulphonic acid (ANS) fluorophore. The results show a distinct influence of high ***pressure*** on the native dimers whose changes in conformation may, depending on whether or not these alterations are promptly reversed, be distinguished in elastic and inelastic changes. Elastic changes are ubiquitous and refer to pronounced modulations of the phosphorescence lifetime which is a monitor of the internal flexibility of the macromolecules. They attest to a tightening of the globular structure in the lower ***pressure*** range (below 1.5 kbar) as opposed to an increased fluidity in the higher range. The trend is similar between the two ***proteins*** and the tightening/loosening effect is fully consistent with the role that internal cavities and hydration of ***polypeptide*** is expected to play in determining the compressibility
of these biopolymers. Inelastic perturbations reveal a more profound loosening of the globular fold and were observed only with alcohol dehydrogenase under conditions (low temperature (t < 10 degrees C) and high ***pressure*** (p > 2.5 kbar)) that favour ***protein***

hydration. They involve slow consecutive reactions that produce drastic reductions in phosphorescence lifetime, spectral red shifts, quenching of fluorescence and phosphorescence emission and modulation of ANS binding. Judging from the full protection afforded by glycerol as cosolvent, or the remarkable enhancement caused by modest concentrations of ***urea*** , the driving force of these perturbations appears to be ***pressure*** -induced hydration of the ***protein*** . Inelastic conformational changes are accompanied by a slow and often incomplete recovery of enzymatic activity. The characteristic times of these processes, their ***pressure*** dependence and the slow, thermally activated, reversibility are discussed in the light of hysteresis phenomena and changes of subunit affinity in ***dissociation*** equilibria.

L18 ANSWER 14 OF 78 MEDLINE
AN 96366018 MEDLINE
DN 96366018
TI Concentration dependence of the subunit association of oligomers and viruses and the modification of the latter by ***urea*** binding.
AU Weber G; Da Poian A T; Silva J L
CS Departamento de Bioquimica, Universidade Federal do Rio de Janeiro, Brazil.
NC GM-11223 (NIGMS)
SO BIOPHYSICAL JOURNAL, (1996 Jan) 70 (1) 167-73.
Journal code: A5S. ISSN: 0006-3495.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199612
AB A theoretical model is presented that accounts for the facilitation of the ***pressure*** ***dissociation*** of R17 phage, and for the partial restoration of the concentration dependence of the ***dissociation*** , by the presence of subdenaturing concentrations of ***urea*** . As an indifferent osmolyte ***urea*** should promote the stability of the ***protein*** ***aggregates*** under ***pressure*** , and the decrease in ***pressure*** stability with ***urea*** concentration demonstrates that such indirect solvent effects are not significant for this case, and that the progressive destabilization is the result of direct ***protein*** - ***urea*** interactions. By acting as a "homogenizer" of the properties of the phage particles, ***urea*** addition converts the ***pressure*** -induced deterministic ***dissociation*** of the phage into a limited stochastic equilibrium. The model establishes the origin of the uniform progression from the stochastic equilibrium of dimers, to the temperature-dependent and partially concentration-dependent association of tetramers, to the fully deterministic equilibrium observed in many multimers and in the virus capsids.

L18 ANSWER 15 OF 78 MEDLINE
AN 96264884 MEDLINE
DN 96264884
TI Deterministic pressure dissociation and unfolding of triose phosphate isomerase: persistent heterogeneity of a protein dimer.
AU Rietveld A W; Ferreira S T
CS Departamento de Bioquimica Medica, Universidade Federal do Rio de Janeiro, Brazil.
SO BIOCHEMISTRY, (1996 Jun 18) 35 (24) 7743-51.

Journal code: A0G. ISSN: 0006-2960.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199610
AB Subunit ***dissociation*** and unfolding of dimeric rabbit muscle triose phosphate isomerase (TIM) induced by hydrostatic ***pressure*** were investigated. Changes in fluorescence emission of TIM (both intrinsic and of covalently attached probes) indicated that ***pressure*** ranging from 1 bar to 3.5 kbar promoted subunit ***dissociation*** and unfolding. Instrinsic fluorescence changes upon unfolding by ***pressure*** included a 27 nm red-shift of the emission, a decrease in fluorescence anisotropy from 0.14 to about 0.01, and a 1.5-fold increase in fluorescence quantum yield, similar to that observed in the presence of ***guanidine*** hydrochloride. Kinetics of ***pressure*** -induced fluorescence changes were slow (t 1/2 approximately 15 min) and little dependent on ***pressure*** . In order to selectively monitor subunit ***dissociation*** , fluorescence resonance energy transfer (FRET) measurements were carried out with TIM that was separately labeled with 5-((((2-iodoacetyl)-amino)ethyl)amino)naphthalene-1-sulfonic acid (1,5-IAEDANS) or fluorescein-5-isothiocyanate (FITC). FRET measurements indicated that subunit ***dissociation*** and unfolding took place concomitantly, both under equilibrium conditions and in kinetic experiments in which ***dissociation*** /unfolding was triggered by a sudden increase in ***pressure*** . Release of ***pressure*** caused monomer refolding and dimerization. Contrary to what would be expected for a process involving subunit ***dissociation*** , ***pressure*** effects on TIM were not dependent on ***protein*** concentration. Experiments involving a series of ***pressure*** jumps demonstrated persistent heterogeneity in sensitivity toward ***pressure*** in the ensemble of TIM dimers. This kind of deterministic behavior is similar to that exhibited by higher order ***protein*** ***aggregates*** and indicates that not all individual dimers are energetically identical in solution. The heterogeneity of native TIM revealed by sensitivity to ***pressure*** could not be detected by traditional means of ***protein*** separation, such as polyacrylamide gel electrophoresis (under both native and denaturing conditions) and size exclusion gel chromatography. This suggests that energetic heterogeneity originates from conformational heterogeneity of the ***protein*** . The possible biological relevance of the deterministic character of stability of TIM is discussed.

L18 ANSWER 16 OF 78 MEDLINE
AN 96032728 MEDLINE
DN 96032728
TI Inactive GroEL monomers can be isolated and reassembled to functional tetradecamers that contain few bound peptides.
AU Ybarra J; Horowitz P M
CS Department of Biochemistry, University of Texas Health Science Center, San Antonio 78284-7760, USA.
NC GM25177 (NIGMS)
ES05729 (NIEHS)
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1995 Sep 29) 270 (39) 22962-7.
Journal code: HIV. ISSN: 0021-9258.

CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals
EM 199601
AB For the first time, it has been shown that GroEL can be converted from tetradecamers (14-mers) to monomers under conditions commonly used for the preparation of this chaperonin. The essential requirements are the simultaneous presence of nucleotides such as MgATP or MgADP and a solid-phase anion-exchange medium. The monomers that are formed are metastable in that they only reassemble to a small degree in the absence of additives. These results are in keeping with previous studies on high ***pressure*** ***dissociation*** that showed the separated monomers display conformational plasticity and can undergo conformational relaxation when relieved of the constraints of the quaternary structure in the oligomer (Gorovits, B., Raman, C. S., and Horowitz, P. M. (1995) J. Biol. Chem. 270, 2061-2066). The monomers display greatly enhanced hydrophobic exposure to the probe 1,1'-bis(4-anilino)naphthalene-5,5'-disulfonic acid, although they are not active in folding functions, and they are unable to form complexes with partially folded rhodanese. The monomers can be completely reassembled to 14-mers by incubation in 1 M ammonium sulfate. There is no evidence of intermediates in the reassembly process. Compared with the original oligomers, the reassembled 14-mers have (a) very low levels of ***polypeptide*** contaminants and tryptophan-like fluorescence, two problems that previously hampered spectroscopic studies of GroEL structure and function; (b) functional properties that are very similar to the original material; (c) considerably decreased hydrophobic exposure in the native state; and (d) a similar triggered exposure of hydrophobic surfaces after treatment with ***urea*** or spermidine. This study demonstrates that the quaternary structure of GroEL is more labile than previously thought. These results are consistent with suggestions that nucleotides can loosen subunit interactions and show that changes in quaternary structure can operate under conditions where GroEL function has been demonstrated.

L18 ANSWER 17 OF 78 MEDLINE
AN 96030264 MEDLINE
DN 96030264
TI Improved homogenization of recombinant Escherichia coli following pretreatment with ***guanidine*** hydrochloride.
AU Bailey S M; Blum P H; Meagher M M
CS Department of Biological Systems Engineering, School of Biological Sciences, University of Nebraska, Lincoln 68583-0919, USA.
SO BIOTECHNOLOGY PROGRESS, (1995 Sep-Oct) 11 (5) 533-9.
Journal code: ALG. ISSN: 8756-7938.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; B
EM 199604
AB Pretreatment of recombinant Escherichia coli, expressing human growth hormone inclusion bodies, with ***guanidine*** hydrochloride and Triton X-100 prior to high- ***pressure*** homogenization has been investigated. Homogenates were analyzed for ***protein*** release, viscosity, and particle size. We were able to reduce the number of passes required for cell disruption and the number of downstream processing steps

required for the recovery of ***protein*** from inclusion bodies by pretreating cells with ***guanidine*** HCl and Triton X-100. Pretreatment of exponential growth phase cells with 1.5 M ***guanidine*** HCl and 1.5% Triton X-100 gave adequate disruption after one pass at 41 MPa with a particle size distribution similar to that for untreated cells disrupted after one pass at 62 MPa. This combination of ***guanidine*** HCl and Triton X-100 was also selected so as to wash the inclusion bodies without ***solubilization*** of the human growth hormone. Pretreatment of cells with 4 M ***guanidine*** HCl produced cell debris that was substantially smaller than the debris from untreated cells and partially ***solubilized*** the inclusion bodies. Cells harvested in the stationary growth phase were more resistant to high-***pressure*** homogenization and pretreatment.

L18 ANSWER 18 OF 78 MEDLINE
AN 96007353 MEDLINE
DN 96007353
TI Oral L-arginine inhibits platelet aggregation but does not enhance endothelium-dependent dilation in healthy young men.
AU Adams M R; Forsyth C J; Jessup W; Robinson J; Celermajer D S
CS Department of Cardiology, Royal Prince Alfred Hospital, Sydney, Australia..
SO JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY, (1995 Oct) 26 (4) 1054-61. Journal code: H50. ISSN: 0735-1097.
CY United States
DT (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
(RANDOMIZED CONTROLLED TRIAL)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 199601
AB OBJECTIVES. Our aim was to assess the effect of oral L-arginine on endothelial or platelet physiology in humans. BACKGROUND. L-Arginine is the substrate for nitric oxide synthesis, and in cholesterol-fed rabbits, oral L-arginine improves endothelium-dependent dilation, inhibits platelet ***aggregation*** and reduces atheroma. In hypercholesterolemic humans, intravenous L-arginine immediately improves endothelium-dependent dilation; however, the vascular effects of oral L-arginine in healthy humans have not previously been investigated. METHODS. In a prospective, double-blind, randomized crossover trial, 12 healthy young men 27 to 37 years old took L-arginine (7 g three times daily) or placebo for 3 days each, separated by a washout period of 7 to 14 days. RESULTS. After L-arginine, plasma levels of arginine (mean +/- SEM 303 +/- 36 vs. 128 +/- 12 mumol/liter, $p = 0.01$) and ***urea*** (6.7 +/- 0.5 vs. 5.2 +/- 0.2 mmol/liter, $p < 0.01$) were higher than levels measured after placebo, and platelet ***aggregation*** in response to adenosine diphosphate was markedly impaired (37 +/- 12% vs. 81 +/- 3%, $p = 0.02$). The inhibition of platelet ***aggregation*** correlated with the plasma level of L-arginine ($r = 0.74$, $p = 0.01$), and it could be completely or partially reversed by ex vivo incubation with N-monomethyl-L-arginine, a specific nitric oxide synthase inhibitor. Platelet cyclic guanosine monophosphate levels were higher after oral L-arginine than at baseline (1.91 +/- 0.46 vs. 1.38 +/- 0.40 pmol/10(9) platelets, $p = 0.04$). No changes were seen in fasting lipid levels, heart rate, blood ***pressure*** , endothelium-dependent dilation of the brachial artery (measured in

response to reactive hyperemia, using external vascular ultrasound) (6.1 +/- 0.7% vs. 6.5 +/- 0.7%, p = NS) or in plasma levels of nitrosylated ***proteins*** (a marker of in vivo nitric oxide production) (3.5 +/- 0.5 vs. 3.3 +/- 0.4 mumol/liter, p = NS) 1 to 1.5 h after the last dose of L-arginine. CONCLUSIONS. In these healthy young adult men, oral L-arginine inhibited platelet ***aggregation*** by way of the nitric oxide pathway. However, it had no effect on systemic hemodynamic variables, plasma nitrosylated ***protein*** levels or endothelium-dependent dilation. Therefore, at certain doses, oral L-arginine may result in a relatively platelet-specific increase in nitric oxide production.

L18 ANSWER 19 OF 78 MEDLINE
AN 95138167 MEDLINE
DN 95138167
TI High hydrostatic pressure induces the dissociation of cpn60 tetradecamers and reveals a plasticity of the monomers.
AU Gorovits B; Raman C S; Horowitz P M
CS Department of Biochemistry, University of Texas Health Science Center, San Antonio 78284-7760..
NC GM25177 (NIGMS)
ES05729 (NIEHS)
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1995 Feb 3) 270 (5) 2061-6.
Journal code: HIV. ISSN: 0021-9258.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals
EM 199505
AB Hydrostatic ***pressures*** up to 2 kbar have been used to form monomers from the 14-subunit oligomer of the chaperonin, Cpn60. The fluorescence of 1,1'-bi(4-anilino) naphthalene-5,5'-disulfonic acid (bisANS), followed at high ***pressure*** , demonstrated an increase in hydrophobic exposure on ***dissociation*** . Cpn60 ***dissociated*** with first order kinetics. The transition occurred between 1.3 and 2 kbar (P50 = 1.75 kbar), and it was facilitated by MgATP (P50 = 1.1 kbar). With MgATP, the fluorescence showed a rapid first order phase (t1/2 = 3.7 min) in addition to a phase that was similar to the single phase for Cpn60 alone (t1/2 = 11.4 min). The bisANS fluorescence decreased slowly after depressurization, and the relaxation was faster at 25 degrees C (t1/2 = 58 h) than at 4 degrees C (t1/2 = 86 h) and faster still if the sample at 4 degrees C contained MgATP when it was pressurized (t1/2 = 18 h). There was no significant effect if the MgATP was added after depressurization. Analytical ultracentrifugation, after depressurization, confirmed that metastable monomers were produced that slowly reassociated to form the oligomers (t1/2 = 150 h at 25 degrees C). Immediately after depressurization, the monomers (a) had all three sulfhydryl groups exposed for labeling with 6-iodoacetamidofluorescein, (b) showed a proteolytic susceptibility that was intermediate between native Cpn60 and Cpn60 in 2.5 M ***urea*** , and (c) were not able to capture a folding intermediate of the ***enzyme*** rhodanese. After incubation at atmospheric ***pressure*** , monomeric Cpn60 regained the ability to interact with rhodanese intermediates, and the sulfhydryl reactivity fell before significantly reassociating to 14-mers. The different rates of recovery of the native properties indicate that a complex series of conformational events occur following depressurization. Finally, the monomers resulting from ***pressure*** were different from those produced from Cpn60 by the action of 2.5 M ***urea*** . These results demonstrate that there

is a fast, ***pressure*** -induced ***dissociation*** of the Cpn60 14-mer followed by a conformational drift of the ***dissociated*** monomers that can be influenced by the presence of MgATP.

L18 ANSWER 20 OF 78 MEDLINE
AN 94377741 MEDLINE
DN 94377741
TI Treatment with cilazapril, angiotensin-converting enzyme inhibitor, changes the affinity of arginine vasopressin receptor in the kidney of the spontaneously hypertensive rat.
AU Nishida N; Ogura T; Yamauchi T; Hosoya M; Ota Z
CS Third Department of Internal Medicine, Okayama University Medical School, Japan..
SO RESEARCH COMMUNICATIONS IN CHEMICAL PATHOLOGY AND PHARMACOLOGY, (1994 May) 84 (2) 143-52.
Journal code: R62. ISSN: 0034-5164.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199412
AB To elucidate the interaction between the renin-angiotensin system and arginine vasopressin (AVP), we investigated the change in the renal AVP receptor in the spontaneously hypertensive rat (SHR) treated with an angiotensin-converting ***enzyme*** (ACE) inhibitor, cilazapril. SHR (age 15 weeks) were given oral cilazapril 10 mg/kg body weight daily for 25 days (ACEI group). Systolic blood ***pressure*** was significantly decreased in the ACEI group as compared with the untreated SHRs (control group) after day 2. Urine volume in the ACEI group was 3- to 5-fold higher than that in the control group. Under these conditions, the renal AVP receptor was studied using the radiolabeled receptor assay (RRA) of [3H]-AVP from renal medulla membrane fractions. The serum concentrations of sodium, potassium, chloride, ***urea*** nitrogen and creatinine were not significantly different between the two groups. The plasma concentration of AVP in the ACEI group was higher than that in the control group. The ***dissociation*** constant (Kd) in the ACEI group was significantly lower than that in the control, although there was no significant change of maximum binding capacity (Bmax) between the two groups. We previously reported that the number of renal AVP receptors decreased in rats with diabetes insipidus which were treated with lithium, suggesting that the change in the AVP receptor is a primary cause of polyuric state induced by lithium. In the present study, the diuretic state and the decrease in blood ***pressure*** induced by cilazapril resulted in a marked decrease in the Kd of the renal AVP receptor and an increase in the plasma AVP level. It is suggested that plasma AVP and renal AVP receptors in SHR responded to the diuretic state induced by cilazapril by increasing the secretion and renal receptor affinity. We conclude that the AVP system plays an important role in the regulation of the fluid balance under diuretic conditions caused by ACE inhibitor treatment.

L18 ANSWER 21 OF 78 MEDLINE
AN 94354404 MEDLINE
DN 94354404
TI Analysis of dissociation and unfolding of oligomeric proteins using a flat bed gel electrophoresis at high pressure.
AU Paladini A A; Weber G; Erijman L

CS Instituto de Investigaciones en Ingenieria Genetica y Biologia Molecular, Facultad de Ciencias Exactas y Naturales, UBA, Argentina.
NC GM11223 (NIGMS)
SO ANALYTICAL BIOCHEMISTRY, (1994 May 1) 218 (2) 364-9.
Journal code: 4NK. ISSN: 0003-2697.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199412
AB A slab gel electrophoresis apparatus with the ability to operate over a ***pressure*** range of 10(-3) to 2 kbar is described. The system presented here is an improvement of a previous apparatus (A. A. Paladini, J. L. Silva, and G. Weber, Anal. Biochem. 161, 358-364, 1987). It consists of a flat bed gel, with a significantly enlarged buffer reservoir, which eliminates the requirement of high concentrations of running buffers, and at the same time allows shorter runs, leading to enhanced resolution and reproducibility. The application of the method to the ***dissociation*** of the tetramer glycogen phosphorylase a as a function of hydrostatic ***pressure*** is described. The flat geometry of the apparatus allows for the first time the analysis of the stability of oligomers and their constituent subunits to chemical denaturation by ***urea*** gradient electrophoresis gels at high ***pressure*** . Dimeric hexokinase shows a reversible cooperative unfolding transition with a midpoint at 3.8 M ***urea*** . In contrast, the monomers unfold at very low ***urea*** concentration (< 1.0 M). The observed differences in stability validates oligomerization as an important stabilizing element of the ***protein*** structure.

L18 ANSWER 22 OF 78 MEDLINE
AN 94128244 MEDLINE
DN 94128244
TI Biochemical characterization of air-filled albumin microspheres.
AU Hellebust H; Christiansen C; Skotland T
CS Nycomed Imaging AS, Oslo, Norway.
SO BIOTECHNOLOGY AND APPLIED BIOCHEMISTRY, (1993 Dec) 18 (Pt 3) 227-37.
Journal code: AHF. ISSN: 0885-4513.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199405
AB Heating and sonication of a solution of human serum albumin (HSA) yields air-filled microspheres that can be used as a contrast agent in ultrasound examinations. The microspheres are stabilized by a thin-layer of ***protein*** surrounding the air bubbles. As long as the microspheres were intact, the ***protein*** was insoluble in aqueous solutions. After disintegration of the microspheres, the ***protein*** could be ***solubilized*** in several solutions. The intermolecular interactions in the microsphere ***protein*** have been elucidated from its ***solubility*** properties. The microspheres were disintegrated by several detergents which also ***solubilized*** the ***protein*** . After ***pressure*** disintegration of the microspheres, the ***protein*** was ***solubilized*** immediately in ***urea*** and ***guanidinium*** chloride, and also in phosphate-buffered saline after incubation overnight. These results indicate that the ***protein*** was mainly stabilized by non-covalent forces. The

solubilization in buffer was inhibited by a high salt concentration, suggesting that hydrophobic interactions were involved in stabilizing the microsphere structure. Analysis of the ***solubilized*** ***protein*** by gel filtration showed that the ***protein*** contained substantial amounts of soluble ***aggregates*** of HSA. Reduction of the disulphide bonds dissolved these ***aggregates*** into monomeric HSA, showing that intermolecular disulphide bonds were also involved in stabilization of the microspheres. The ***solubilized*** ***protein*** also contained less fatty acids than the soluble HSA used for the production of microspheres. These results show that the microsphere ***protein*** has the same characteristics as heat-denatured HSA.

L18 ANSWER 23 OF 78 MEDLINE
AN 93294872 MEDLINE
DN 93294872
TI Reversible pressure dissociation of R17 bacteriophage. The physical individuality of virus particles.
AU Da Poian A T; Oliveira A C; Gaspar L P; Silva J L; Weber G
CS Departamento de Bioquimica, Universidade Federal do Rio de Janeiro, Brazil.
NC GM-11223 (NIGMS)
SO JOURNAL OF MOLECULAR BIOLOGY, (1993 Jun 20) 231 (4) 999-1008. Journal code: J6V. ISSN: 0022-2836.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals
EM 199309
AB In the absence of ***urea*** , ***pressures*** up to 2.5 kbar promote only 10% ***dissociation*** of the whole particles of R17 bacteriophage. In the presence of concentrations of ***urea*** between 1.0 and 5.0 M, ***pressure*** promotes complete, reversible ***dissociation*** of the virus particles. At the lower ***urea*** concentrations reversible ***dissociation*** of R17 virus particles shows no dependence on ***protein*** concentration indicating a high degree of heterogeneity of the particles, but higher ***urea*** concentrations, 2.5 to 5.0 M, result in progressive restoration of the ***protein*** concentration dependence of the ***pressure*** ***dissociation*** . At still higher ***urea*** concentrations, 5.0 to 8.0 M, irreversible ***dissociation*** of virus takes place at atmospheric ***pressure*** . In contrast, the ***dissociation*** of the isolated dimers of the capsid ***protein*** was dependent on ***protein*** concentration to the extent predicted for a stochastic equilibrium, and dimers were much less stable than the whole virus both to ***dissociation*** by ***pressure*** or ***urea*** . In contradistinction, the reversible whole-virus ***dissociation*** observed at ***urea*** concentrations below 2.5 M appears to be a typical deterministic equilibrium, without appreciable dynamic exchange between whole particle and subunits during the lengthy experiments. The experiments demonstrate that the "thermodynamic individuality" of the virus particles arises in conformational differences in the assembled viruses, and that there is a direct relation between the stability of the particles and their heterogeneity.

L18 ANSWER 24 OF 78 MEDLINE
AN 93014595 MEDLINE

DN 93014595
TI The role of chemical mediators released by the endothelium in the control of the cardiovascular system.
AU Vane J R; Botting R M
CS William Harvey Research Institute, St. Bartholomew's Hospital Medical College, London, U.K.
SO INTERNATIONAL JOURNAL OF TISSUE REACTIONS, (1992) 14 (2) 55-64. Ref: 100
Journal code: GTG. ISSN: 0250-0868.
CY Switzerland
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LA English
FS Priority Journals
EM 199301
AB The vascular endothelium is much more than just a lining for blood vessels. It inactivates many mediators and produces a host of active substances. The production of these substances is modulated by interactions between the endothelial cells and white blood cells, platelets or constituents of plasma. The endothelial cells can be activated by amines, peptides, ***proteins*** , nucleotides, arachidonic acid and its metabolites, as well as by physical changes such as pulse ***pressure*** . This activation of endothelial cells is often mediated by specific receptors which respond in a variety of ways including the generation of prostacyclin and endothelium-derived relaxing factor (EDRF). Both of these mediators inhibit platelet ***aggregation*** and cause vascular dilatation, prostacyclin through increasing cyclic AMP, and EDRF through increasing cyclic GMP. EDRF has been identified as nitric oxide (NO) derived from the ***guanidino*** group of L-arginine. Inhibitors of NO formation cause a strong increase in blood ***pressure*** , showing that under normal conditions there is a constant formation of NO to dilate the vasculature. Endothelin is another agent made by endothelial cells; characterized and synthesized in 1988, it is the most potent vasoconstrictor so far discovered. Three endothelin isomers have been identified; paradoxically, ET-1 strongly releases both prostacyclin and NO, thus modulating its own vasoconstrictor activities.

L18 ANSWER 25 OF 78 MEDLINE
AN 92378462 MEDLINE
DN 92378462
TI Gas vesicles are strengthened by the outer-surface protein, GvpC.
AU Hayes P K; Buchholz B; Walsby A E
CS Department of Botany, University of Bristol, UK.
SO ARCHIVES OF MICROBIOLOGY, (1992) 157 (3) 229-34.
Journal code: 7YN. ISSN: 0302-8933.
CY GERMANY: Germany, Federal Republic of
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199211
AB The critical collapse ***pressure*** of gas vesicles isolated from Anabaena flos-aquae decreased from 0.557 to 0.190 MPa when GvpC, the hydrophilic 22 kDa ***protein*** present on the outer surface of the gas vesicle, was removed by rising in 6 M ***urea*** . Recombinant GvpC was purified from inclusion bodies, produced in an E. coli strain containing an expression vector bearing the gene encoding GvpC from A. flos-aquae, and then ***solubilised*** in 6 M ***urea*** . This

recombinant GvpC became bound to gas vesicles that had been stripped of their native ***protein*** , when the ***urea*** was removed by dialysis; the amount which bound increased with the concentration of GvpC present. The critical ***pressure*** of these reconstituted gas vesicles increased to 0.533 MPa, 96% of the original value. These results indicate that the function of GvpC is to increase the strength of the structure.

L18 ANSWER 26 OF 78 MEDLINE
AN 92344577 MEDLINE
DN 92344577
TI Dissociation and unfolding of Pi-class glutathione transferase. Evidence for a monomeric inactive intermediate.
AU Aceto A; Caccuri A M; Sacchetta P; Bucciarelli T; Dragani B; Rosato N; Federici G; Di Ilio C
CS Istituto di Scienze Biochimiche, Universit`a G. D'Annuzio, Chieti, Italy.
SO BIOCHEMICAL JOURNAL, (1992 Jul 1) 285 (Pt 1) 241-5.
Journal code: 9YO. ISSN: 0264-6021.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals
EM 199210
AB The ***dissociation*** and unfolding of the homodimeric glutathione transferase (GST) Pi from human placenta, using different physicochemical denaturants, have been investigated at equilibrium. The ***protein*** transitions were followed by monitoring loss of activity, intrinsic fluorescence, tyrosine exposure, far-u.v. c.d. and gel-filtration retention time of the ***protein*** . At low denaturant concentration (less than 1 M for ***guanidinium*** chloride and less than 4.5 M for ***urea***), a reversible ***dissociation*** step leading to inactivation of the ***enzyme*** was observed. At higher denaturant concentrations the monomer unfolds completely. The same unfolding behaviour was also observed with high hydrostatic ***pressure*** as denaturant. Our results indicate that the denaturation of GST Pi is a multistep process, i.e. ***dissociation*** of the active dimer into structured inactive monomers followed by unfolding.

L18 ANSWER 27 OF 78 MEDLINE
AN 89134333 MEDLINE
DN 89134333
TI General pharmacology of ramipril.
AU Omosu M; Komine I; Becker R H; Scholkens B A
CS Pharma Research Laboratories, Hoechst Japan Limited, Saitama..
SO ARZNEIMITTEL-FORSCHUNG, (1988 Sep) 38 (9) 1309-17.
Journal code: 91U. ISSN: 0004-4172.
CY GERMANY, WEST: Germany, Federal Republic of
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198905
AB General pharmacological properties of (+)-(1S,3S,5S)-2-[(S)-N-[(S)-1-ethoxycarbonyl-3-phenyl-propyl] alanyl]-2-azabicyclo[3.3.0]octane-3-carboxylic acid (ramipril, Hoe 498), a new prodrug non-sulfhydryl angiotensin converting ***enzyme*** inhibitor and its active diacid metabolite, ramiprilat, were examined. Both ramipril and ramiprilat were without effect on basal central and autonomic nervous systems in rats and

mice. Ramipril given intravenously to anaesthetized normotensive dogs produced a slight fall in blood ***pressure*** but did not significantly alter other cardio-hemodynamic functions. Also, ramiprilat was without effect on isolated atria and airway resistance of guinea pigs. Oral administration of ramipril to dogs increased renal blood flow but did not significantly affect other renal parameters, for example, glomerular filtration rate and electrolyte excretion. Ramipril produced a competitive inhibition of late proximal tubular secretion which points to in part renal secretory excretion of ramipril and/or its metabolites. Compared to ***urea*** -induced diuresis in rats, ramipril was without direct diuretic activity. Ramipril exerted little, if any, influence on gastric bile and pancreatic secretion or intestinal transit in rats, as well as on concentration of glucose and lipoproteins, blood coagulation, platelet ***aggregation*** and vascular permeability in rats, rabbits or dogs. The carrageenin-induced rat paw edema was enlarged by ramipril, but there was no such effect on serotonin-, dextran- or ovalbumin-induced edemas which in contrast to carrageenin do not involve bradykinin. Thus, undesired cutaneous reactions might result from locally released bradykinin.(ABSTRACT TRUNCATED AT 250 WORDS)

L18 ANSWER 28 OF 78 MEDLINE
AN 87123951 MEDLINE
DN 87123951
TI Aggregate anaphylaxis and carboxypeptidase N.
AU Ryan J W; Berryer P; Hart M A; Ryan U S
NC HL 22896 (NHLBI)
HL 22087 (NHLBI)
HL 21568 (NHLBI)
SO ADVANCES IN EXPERIMENTAL MEDICINE AND BIOLOGY, (1986) 198 Pt A 435-43.
Journal code: 2LU. ISSN: 0065-2598.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198705
AB Bradykinin (BK) is widely believed to play a role in the pathogenesis of anaphylaxis. To help clarify any such roles, we examined for effects of inhibitors of kininase II (angiotensin converting ***enzyme*** , ACE) and "kininase I" (carboxypeptidase N, CPN), on the early course of egg albumin-induced ***aggregate*** anaphylaxis in anesthetized guinea pigs. In this model, pulmonary and systemic arterial blood ***pressure*** (BP) rise (unless pulmonary fibrillation occurs), lung wgt increases by approximately 60% and pulmonary microvessels are occluded by cell-rich thrombi, all within 5 min of i.v. antigen. The 30 min mortality rate is approximately 2%. ACE inhibitors (BPP9a, Captopril and MK 422; doses up to 140 mumol/kg) do not make anaphylaxis more nor less severe in terms discernible by changes in BP, lung wgt, EKG or intravascular coagulation. In marked contrast, an inhibitor of CPN (2-mercaptomethyl-3- ***guanidinoethylthiopropionic*** acid, 2-MGP; 8-16 mumol/kg) increases the 30 min mortality rate to 94% and lung wgt to 180% of control. The animals die in ventricular fibrillation. Given the enormous BK potentiating effects of BPP9a, Captopril and MK 422, it seems likely that little if any BK is formed in the early min of anaphylaxis. 2-MGP does not potentiate BP effects of BK but markedly potentiates effects of C3a anaphylatoxin. Thus, our data support the views that BK is neither a primary nor secondary mediator of ***aggregate*** anaphylaxis, and the adverse effects of 2-MGP are best explained in terms

of preservation of anaphylatoxins and not in terms of preservation of kinins.

L18 ANSWER 29 OF 78 MEDLINE
AN 87062534 MEDLINE
DN 87062534
TI Glomerular epithelial cell structure and function in chronic proteinuria induced by homologous protein-load.
AU Schwartz M M; Bidani A K; Lewis E J
NC AM 21536 (NIADDK)
SO LABORATORY INVESTIGATION, (1986 Dec) 55 (6) 673-9.
Journal code: KZ4. ISSN: 0023-6837.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals
EM 198703
AB The pathogenesis of glomerular scarring in proteinuric diseases is unknown, but glomerular epithelial cell (GEC) injury has been implied by the glomerular pathology seen in patients with focal segmental glomerular sclerosis and the nephrotic syndrome. We studied the effect of proteinuria on glomerular histology and GEC structure and function in rats made proteinuric for up to 8 weeks by the daily parenteral injection of homologous serum albumin. Proteinuria in the albumin-injected rats peaked at a mean level of 131 +/- 12 mg/24 hours (mean +/- SD) during the 1st week. It subsequently plateaued at 41 +/- 6 mg/24 hours but remained significantly greater than the saline-injected controls throughout the study. The albumin-injected rats developed slight but significant increases in blood ***pressure*** , serum albumin, plasma volume, and urine ***urea*** nitrogen compared to the saline injected controls. The serum creatinine was not different from controls. In the albumin-injected rats no glomerular scarring was observed after 8 weeks of proteinuria. The GEC developed albumin reabsorption droplets and signs of activity including increased numbers of organelles, vacuoles, and cytoplasmic hypertrophy, but there were no signs of irreversible GEC damage. The GEC foot processes were quantitated morphometrically, and there was no evidence of effacement after eight 4 or 8 weeks of proteinuria. GEC endocytic function, evaluated by the technique of protamine heparin ***aggregate*** disappearance, was not different from the saline injected controls. Proteinuria caused by the chronic administration of homologous serum albumin for 8 weeks is regularly associated with increased blood ***pressure*** , plasma volume, and serum albumin and ultrastructural changes in the GEC. These morphologic changes in the GEC apparently represent a normal response to proteinuria and are not evidence for irreversible cell damage. Despite their avid endocytosis of filtered plasma ***proteins*** , GEC endocytic function remains normal. These experimental results imply that glomerular sclerosis is not a consequence of proteinuria per se.

L18 ANSWER 30 OF 78 MEDLINE
AN 86195777 MEDLINE
DN 86195777
TI Isolation and characterization of nuclei from Neurospora crassa.
AU Hautala J A; Conner B H; Jacobson J W; Patel G L; Giles N H
NC GM 22054 (NIGMS)
GM 23051 (NIGMS)
5 F02 GM 55828 (NIGMS)

SO JOURNAL OF BACTERIOLOGY, (1977 May) 130 (2) 704-13.
Journal code: HH3. ISSN: 0021-9193.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198608
AB A procedure was developed for isolating nuclei from either the conidial or germinated conidial growth phase of Neurospora crassa. A frozen conidial suspension was lysed by passage through a French ***pressure*** cell, and the nuclei were freed from the broken cells by repeated homogenization in an Omni-Mixer. Pure nuclei were obtained from the crude nuclear fraction by density banding in a Ludox gradient. The final nuclear yield was 20 to 30%. The nuclei had a deoxyribonucleic acid (DNA):ribonucleic acid (RNA): ***protein*** ratio of 1:3.5:7 and were active in RNA synthesis. The nuclei, stained with the DNA stain 4,6-diamidino-2-phenylindole, appeared under fluorescence microscopy as bright blue spheres, 1 micron in diameter, essentially free from cytoplasmic attachments. Chromatin extracted from the nuclei in a 70 to 75% yield by ***dissociation*** with 2 M sodium chloride and 5 M ***urea*** had a DNA:RNA: ***protein*** ratio of 1:1.05:1.7. Chromatin reconstituted from this preparation exhibited a level of RNA polymerase template activity lower than that of pure Neurospora DNA, but the maximum level of reconstitution obtained was only 10%. Fractionation of Neurospora chromatin on hydroxylapatite separated the histones from the chromatin acidic ***proteins*** . The normal complement of histone ***proteins*** was present in both the reconstituted and ***dissociated*** chromatin preparations. The acidic ***protein*** fraction exhibited a variety of bands on sodium dodecyl sulfate gel electrophoresis ranging in molecular weight from 15,000 to 70,000. The gel pattern was much more complex for total ***dissociated*** chromatin than for reconstituted chromatin.

L18 ANSWER 31 OF 78 MEDLINE
AN 86055620 MEDLINE
DN 86055620
TI High ***pressure*** ***dissociation*** of lactate dehydrogenase from Bacillus stearothermophilus and reconstitution of the ***enzyme*** after denaturation in 6 M ***guanidine*** hydrochloride.
AU Muller K; Seifert T; Jaenicke R
SO EUROPEAN BIOPHYSICS JOURNAL, (1984) 11 (2) 87-94.
Journal code: EHU. ISSN: 0175-7571.
CY GERMANY, WEST: Germany, Federal Republic of
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198603
AB Tetrameric lactate dehydrogenase from Bacillus stearothermophilus exhibits unusual stability towards high hydrostatic ***pressure*** : In contrast to the mesophilic ***enzyme*** , incubation at ***pressures*** up to 2.8 kbar does not cause irreversible denaturation. Hybridization under these conditions suggests partial ***dissociation*** to the dimer, indicating that reassociation occurs within the dead-time after ***pressure*** release (less than 20 s at less than or equal to 40 micrograms/ml, 20 degrees C). Incubation at P less than 2.8 kbar affects neither the native quaternary structure nor the catalytic function of the

DN 76235696
TI Factors in the evolution of hemoglobin function.
AU Riggs A
SO FEDERATION PROCEEDINGS, (1976 Aug) 35 (10) 2115-8.
Journal code: EUV. ISSN: 0014-9446.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 197611
AB The packaging of vertebrate blood hemoglobins within cells places subtle constraints on hemoglobin evolution. Since the concentration of hemoglobin is near the ***solubility*** limit a selective advantage should exist for a noncomplementary external topology of amino acid residues. Further, any change in charge on the ***protein*** should alter ion distribution across the cell membrane and so modify ion-sensitive oxygen transport. An efficient hemoglobin must not only combine readily with oxygen at prevailing environmental oxygen ***pressures*** , but must also release it at metabolically appropriate ***pressures*** . These adaptations frequently employ different strategies to achieve the same objective in different animals. Some hemoglobins have evolved special properties unrelated to the transport of oxygen to metabolizing tissues. Thus many teleost fish have hemoglobins that discharge much of their oxygen at low pH even at high oxygen ***pressures*** . This property appears to aid in filling the swim bladder with oxygen. The hemoglobins of elasmobranchs have evoked a unique resistance to ***urea*** as a consequence of the high ***urea*** content of their blood. Sometimes the functional adaptations of hemoglobins are achieved by multiple hemoglobins in the same cells. Often, however, different red cell populations with functionally unique hemoglobins arise sequentially during ontogeny.

L18 ANSWER 34 OF 78 CAPLUS COPYRIGHT 2000 ACS
AN 1999:689904 CAPLUS
DN 132:60656
TI Formation of a gel from .beta.-lactoglobulin under hydrostatic pressure
AU Kanno, C.; Mu, T.-H.; Ametani, M.; Azuma, N.
CS Department of Applied Biochemistry, Utsunomiya University, Utsunomiya, 321-8505, Japan
SO Adv. High Pressure Biosci. Biotechnol., Proc. Int. Conf. (1999), Meeting Date 1998, 329-332. Editor(s): Ludwig, Horst. Publisher: Springer-Verlag, Berlin, Germany.
CODEN: 68IFAH
DT Conference
LA English
AB The .beta.-lactoglobulin (.beta.-Lg) concn. required for inducing gelation was 10% at 800 MPa, 12% at 600 MPa, and 18% at 400 MPa, but these gels were too soft for any measurement of their textural properties. The hardness and breaking stress of the gels from 14% .beta.-Lg were both enhanced by increasing the ***pressure*** to 800 MPa, but not by increasing the pressurizing time. The microstructure of the .beta.-Lg gel resembled a honeycomb in the alk. pH region and coral in the acidic pH region. The secondary structure of sol. ***protein*** from the gel showed an almost unchanged .alpha.-helix, whereas the .beta.-structure had disappeared, and random and .beta.-turns had increased. The ***soly*** . of .beta.-Lg was lower in a Tris-glycine-EDTA buffer at pH 8.0 than in the same buffer contg. 0.5% SDS and 8M ***urea*** . In the alk. pH

enzyme . Reconstitution of the unfolded and ***dissociated*** subunits after denaturation, e.g., in 6 M ***guanidine*** . HCl, is characterized by fast association favouring the native assembled structure. Evidence from spectroscopic measurements shows that reconstitution starts with a fast refolding reaction generating a native-like conformation. The subsequent rate-determining transconformation of the "structured monomers" governs the kinetics of reactivation and reassociation as one single first-order process. Chemical crosslinking with glutaraldehyde proves that the "structured monomers" undergo fast association to form the tetrameric final state of reconstitution, with significant amounts of dimeric intermediates being detectable. The renatured ***enzyme*** is indistinguishable from the native ***enzyme*** regarding its physicochemical and enzymological properties (e.g., activation by fructose-1,6-bisphosphate, and susceptibility towards proteolytic digestion).

L18 ANSWER 32 OF 78 MEDLINE
AN 81077139 MEDLINE
DN 81077139
TI Cross-reactions between cell surface membrane antigens of human trophoblast and cancer cells.
AU McIntyre J A; Faulk W P
SO PLACENTA, (1980 Jul-Sep) 1 (3) 197-207.
Journal code: PMN. ISSN: 0143-4004.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198104
AB This report describes cross-reactivity between cell surface membrane antigens of human trophoblast and certain transformed cells. Heterologous antisera were raised to ***chaotrope*** extracted, intact and ***solubilized*** trophoblast microvillous pellets. Antisera to microvilli, after absorption with human erythrocytes and serum ***proteins*** , reacted with trophoblast, endothelium and stromal cells of chorionic villi as well as with all other human tissues tested. This group of antigens was designated TA2. Further absorptions of the TA2 antisera with normal human tissues such as liver, kidney or peripheral blood leucocytes, removed all immunofluorescent reactivity except for the apical aspect of syncytiotrophoblast and membranes of the human transformed cell lines HEp-2, AV3 and Chang liver. This group of antigens was designated TA1. Absorption with trophoblast membrane pellets removed all TA1 and TA2 antibody activity. Rabbit antisera raised to the first peak of DOC ***solubilized*** syncytiotrophoblast microvilli were shown to have identical patterns of immunofluorescent reactivity to that described for TA1. Cytotoxicity assays with the antisera confirmed the immunofluorescent findings of species specificity and the inability to absorb out reactivity to the cell lines expressing trophoblast cross-reactive antigens with normal tissues. Exhaustive absorptions with AV3 and HEp-2 cell lines removed all immunofluorescent and cytotoxic activities. We propose that the trophoblast cross-reactive antigens present on certain transformed cell lines represent an adaptive response of tumour cells to natural selection ***pressures*** as a biological response to resist immunological recognition and rejection by the host.

L18 ANSWER 33 OF 78 MEDLINE
AN 76235696 MEDLINE

region, a high-mol.-wt. ***aggregate*** in addn. to a tetramer and dimer of .beta.-Lg was detected, but not at pH 4. The SH content of gelled .beta.-Lg was decreased by pressurization in the alk. pH region. No gel was formed with more than 10 mM NEM under ***pressure*** . At pH 7 or more, the oxidn. of SH and exchange of SH-SS groups in the .beta.-Lg mols. were essential for the ***pressure*** -induced gelation.

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(1) Dumay, E; Lebensm -Wiss u Technol 1998, V31, P10 CAPLUS
(3) Funtenberger, S; J Agric Food Chem 1997, V45, P912 CAPLUS
(4) Funtenberger, S; Lebensm -Wiss u Technol 1995, V28, P410 CAPLUS
(5) Kanno, C; J Agric Food Chem 1998, V46, P417 CAPLUS
(6) Kinsella, J; Adv Food Nutr Res 1989, V33, P343 CAPLUS

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L18 ANSWER 35 OF 78 CAPLUS COPYRIGHT 2000 ACS

AN 1998:83082 CAPLUS

DN 128:241449

TI Optimization of membrane isolation and transferrin-binding proteins solubilization from Neisseria meningitidis cells

AU Echeverria, Beatriz; Gomez, Jose Antonio; Hernandez, Ernesto; Criado, Maria Teresa; Ferreiros, Carlos

CS Facultad de Farmacia, Departamento de Microbiologia y Parasitologia, Universidad de Santiago de Compostela, Santiago de Compostela, Spain

SO J. Microbiol. Methods (1998), 31(3), 151-157
CODEN: JMIMDQ; ISSN: 0167-7012

PB Elsevier Science B.V.

DT Journal

LA English

AB Studies on the functionality and immunogenicity of the Neisseria meningitidis transferrin-binding ***proteins*** (Tbps) require their optimal isolation and ***solubilization*** . To optimize these we have evaluated three fractionation and six ***solubilization*** protocols. The best fractionation results were obtained by incubation of the meningococcal cells with lithium chloride followed by passage through a French ***pressure*** cell, with ***protein*** yields of 11.4 mg/g of cells, and activity yields at least three times higher than with other methods. ***Solubilization*** gave results that were variable depending on the ***solubilizing*** agent. ***Protein*** and activity yields were optimal using CTB, and SDS was very effective in maintaining Tbp integrity, but these detergents were not useful for the subsequent purifn. by affinity chromatog. at low temp. ***Solubilization*** with SDS or ***urea*** produced the best extn. of Tbp1, although ***urea*** inactivated the Tbps functionality. ***Solubilization*** with Triton X-100 allowed the purifn. of functional Tbps by affinity chromatog. on transferrin-agarose columns at low temp. ***Solubilization*** with ***urea*** /SDS would be the best choice if purifn. of the Tbps is to be done by affinity chromatog. employing specific antibodies that act as the affinity ligand to obtain the ***proteins*** for immunol. studies.

L18 ANSWER 36 OF 78 CAPLUS COPYRIGHT 2000 ACS

AN 1997:281391 CAPLUS

DN 127:6068

TI High-pressure differential scanning calorimetry of thermally degraded wool
AU Mullejans, Inge; Schafer, Karola; Hocker, Hartwig
CS Deutsches Wollforschungsinstitut e.V., RWTH, Aachen, Germany
SO DWI Rep. (1997), 119(Aachener Textiltagung Aachen Textile Conference, 1996), 497-506
CODEN: DWIREC
PB Deutsches Wollforschungsinstitut an der Technischen Hochschule Aachen
DT Journal
LA German
AB Merino wool was heated in a drying oven at various temps. and for various lengths of time and studied using high ***pressure*** DSC to obtain information about thermally induced crosslinking and denaturation of wool ***proteins*** . Chem. changes in the wool were studied by alkali and ***urea*** -bisulfite ***soly*** . tests, acid and enzymic total hydrolysis, amino acid detn., and polarog. detn. of thiol and disulfide content.

L18 ANSWER 37 OF 78 CAPLUS COPYRIGHT 2000 ACS
AN 1997:87238 CAPLUS
DN 126:196641
TI Pressure effects on the stability and reactivity of methanol dehydrogenase
AU Frank, J.; Bec, N.; Corstjens, H.A.L.; Lange, R.; Balny, C.
CS Kluyver Laboratory of Biotechnology, Department of Biochemical Engineering, Delft University of Technology, Delft, NL-2628, Neth.
SO Prog. Biotechnol. (1996), 13(High Pressure Bioscience and Biotechnology), 215-220
CODEN: PBITE3; ISSN: 0921-0423
PB Elsevier
DT Journal
LA English
AB Methanol dehydrogenase (MDH) is a key ***enzyme*** in the degrdn. of methane and methanol by methylotrophic bacteria. It is an oligomeric ***protein*** with an .alpha.2.beta.2 structure (66 and 10 kDa resp.) and pyrroloquinoline quinone (PQQ) as the redox cofactor, non covalently bound to the large .alpha.-subunit. The natural electron acceptor for methanol dehydrogenase is a special type of cytochrome c. The MDH /cytochrome cL couple is an interesting model system to study the interaction and stability of ***proteins*** . The interaction of the two ***proteins*** can be followed either by the kinetics of electron transfer between the two ***proteins*** or by changes in the CD spectrum. A method based on capillary electrophoresis is presented to det. binding consts. of ***proteins*** , which is suitable to investigate complex formation between mutant ***proteins*** which are no longer capable of transferring electrons. Both ***proteins*** are remarkably resistant against denaturation by ***pressure*** . Cytochrome cL, a small monomeric ***protein*** (19 kDa), is stable up to 1200 MPa. MDH retains its native structure and activity up to 500 MPa, accompanied by a reversible red shift of the 4th deriv. absorption spectrum. At ***pressures*** above 700 MPa, a transition to a denatured state occurs, which is not seen in the presence of cytochrome cL. Application of ***pressure*** in the presence of 6 M ***urea*** leads to an irreversible and stable change in the 4th deriv. absorption spectrum and a concomitant loss of most of the enzymic activity. No evidence supporting subunit ***dissocn*** . was obtained.

L18 ANSWER 38 OF 78 CAPLUS COPYRIGHT 2000 ACS
AN 1997:30003 CAPLUS

DN 126:56585
TI Pressure and cold denaturation of proteins, protein-DNA complexes, and viruses
AU Silva, Jerson L.; Poian, Andrea T. Da; Foguel, Debora
CS Instituto Ciencias Biomedicas, Universidade Federal do Rio de Janeiro, Rio de Janeiro, 21941, Brazil
SO High-Pressure Eff. Mol. Biophys. Enzymol., [Presentations Steenbock Symp.], 23rd (1996), Meeting Date 1994, 133-148. Editor(s): Markley, John L.; Northrop, Dexter B.; Royer, Catherine A. Publisher: Oxford University Press, New York, N. Y.
CODEN: 63VOA6
DT Conference
LA English
AB The application of hydrostatic ***pressure*** provides a means of appraising interprotein and intraprotein interactions isothermally and makes it possible to sample partially folded conformations. A no. of ***proteins*** exhibit cold denaturation and cold ***dissocn*** . We have used the combined effects of ***pressure*** and low temp. to promote ***dissocn*** . or denaturation of single-chain ***proteins*** , oligomers, ***protein*** -DNA complexes, and viruses. In this article, we summarize results that have biol. relevance. The ***dissocn*** . and denaturation of the hexameric ***protein*** , allophycocyanin, are accomplished only when the temp. is decreased to -10.degree., indicating the entropic character of the folding and assocn. reaction. The folding and dimerization of Arc repressor at of 0-20.degree. is also favored by a large pos. entropy that counteracts an unfavorable pos. enthalpy. On binding operator DNA, Arc repressor becomes extremely stable against denaturation. However, the Arc repressor-operator DNA complex is cold denatured at subzero temps. under ***pressure*** . The entropy increases greatly when Arc repressor binds tightly to its operator sequence but not to a nonspecific sequence. The ***dissocn*** . and denaturation of icosahedral viruses by ***pressure*** and low temp. also have been studied. The procapsid shells of bacteriophage P22 only ***dissoc*** . by ***pressure*** at temps. below 0.degree.. The monomeric coat ***protein*** is very unstable toward ***pressure*** . Cowpea mosaic virus (CPMV) ***dissocs*** . only in the presence of 1.0 M ***urea*** , at 2.5 kbar when the temp. is decreased to -15.degree.. At temps. close to -20.degree., partial denaturation is obtained even in the absence of ***urea*** . The assembly of CPMV is related to large and pos. variations of enthalpy and entropy, making the assembly of ribonucleoprotein components an entropy-driven process. We conclude that ***protein*** folding, ***protein*** assocn., and ***protein*** -DNA recognition seem to need pos. entropy to occur. We are facing a puzzle in which a final, apparently more ordered state is achieved, a state that paradoxically had more entropy.

L18 ANSWER 39 OF 78 CAPLUS COPYRIGHT 2000 ACS
AN 1997:30001 CAPLUS
DN 126:100858
TI High-pressure NMR studies of the dissociation of arc repressor and the cold denaturation of ribonuclease A
AU Peng, Xiangdong; Silva, Jerson L.; Zhang, Jing; Ballard, Lance E.; Jonas, Ana; Jonas, Jiri

CS School Chemical Sciences, University Illinois-Urbana-Champaign, Urbana, IL, 61801, USA

SO High-Pressure Eff. Mol. Biophys. Enzymol., [Presentations Steenbock Symp.], 23rd (1996), Meeting Date 1994, 96-109. Editor(s): Markley, John L.; Northrop, Dexter B.; Royer, Catherine A. Publisher: Oxford University Press, New York, N. Y.
CODEN: 63VOA6

DT Conference

LA English

AB We begin this article with a brief discussion of the specialized high-resoln. NMR instrumentation developed for high- ***pressure*** studies of biochem. systems. We then present the potential for the unique information content of high- ***pressure*** NMR spectroscopy as illustrated by the results of two NMR studies performed recently in our lab. Different denatured states of Arc repressor are characterized by one-dimensional (1D) and two-dimensional (2D) NMR. Increasing ***pressure*** promotes sequential changes in the structure of Arc repressor: from the native dimer through a predissociated state to a denaturated molten globule monomer. A compact state (molten globule) of Arc repressor is obtained in the ***dissocn*** . of Arc repressor by ***pressure*** , whereas high temp. and ***urea*** induce ***dissocn*** . and unfolding to less structured conformations. The presence of NOEs (Nuclear Overhauser Enhancement) n the .beta.-sheet region in the ***dissocd*** . state suggests that the intersubunit .beta.-sheet (residues 6-14) in the native dimer is replaced by an intramonomer .beta.-sheet. Changes in 2D NMR spectra prior to ***dissocn*** . indicate the existence of a predissociated state that may represent an intermediate stage in the folding and subunit assocn. pathway of Arc repressor. The cold denaturation study of RNase A has shown that high ***pressure*** can be utilized not only to perturb the ***protein*** structure in a controlled way but also to lower the f.p. of aq. ***protein*** solns. substantially. As a result, one can access subzero temps. and carry out cold denaturation studies of ***proteins*** . The results of the NMR study of the reversible cold denaturation are compared with the heat and ***pressure*** denaturation of bovine pancreatic RNase A.

L18 ANSWER 40 OF 78 CAPLUS COPYRIGHT 2000 ACS

AN 1996:487599 CAPLUS

DN 125:191133

TI Analysis of chorion hardening of eggs of rainbow trout, Oncorhynchus mykiss

AU Iuchi, Ichiro; Ha, Chang-Rak; Sugiyama, Hitoshi; Nomura, Kohji

CS Life Sci. Inst., Sophia Univ., Tokyo, 102, Japan

SO Dev., Growth Differ. (1996), 38(3), 299-306
CODEN: DGDFA5; ISSN: 0012-1592

DT Journal

LA English

AB We estd. changes of chorion hardness of rainbow trout (O. mykiss) egg by the use of 3 parameters, namely increase of resistance of an egg to rupture by extraneously applied ***pressure*** , decrease of ***soly*** . of chorion ***proteins*** in 8M ***urea*** , and a change in the content of .gamma.-glutamyl-.epsilon.-lysine crosslink. Unfertilized egg chorions became hardened after egg activation,. During chorion hardening, 49-, 56-, and 65-kDa ***protein*** components of the chorion gradually disappeared, high-mol.-wt. intermediates (113,

160-170, and >250 kDa) were newly formed and, finally, all components became undetectable by SDS-PAGE. Chorion hardening was inhibited by the incorporation of monodansylcadaverine, a competitive inhibitor for transglutaminase (TGase), into the chorions. TGase activity was detected in unfertilized eggs and localized in the chorion fraction rather than in the ooplasmic fraction. The findings suggest that chorion hardening depends upon polymn. of the chorion components by TGase-dependent .gamma.-Glu-.epsilon.-Lys crosslink formation.

L18 ANSWER 41 OF 78 CAPLUS COPYRIGHT 2000 ACS
AN 1996:96968 CAPLUS
DN 124:197331
TI Metal island coated polymer sensor for direct determination of the volume effect of ***chaotropic*** agents
AU Schalkhammer, Th.; Lobmaier, Ch.; Pittner, F.; Leitner, A.; Brunner, H.; Aussenegg. F. R.
CS Inst. Biochemie Molekulare Zellbiologie, Vienna, A-1030, Austria
SO Mikrochim. Acta (1995), 121(1-4), 259-68
CODEN: MIACAQ; ISSN: 0026-3672
DT Journal
LA English
AB A new optical sensor is presented, based on the analyte reaction resulting in swelling and shrinking of a thin polymer layer. Changing the concn. of ions in a new bisazide photo-crosslinked poly(vinylpyrrolidone) polymer results in a concn.-dependent vol. change of the hydrated gel. The vol. response of the sensor induced by different ions is fully reversible over >250 cycles. The response of the device depends on the type, the charge and the concn. of the ions. The sensor material is part of an optical thin film system which transforms the variation in vol. of the polymer into spectral information. The steady state of the sensor response is obtained within 60 s. The response time is mainly limited by the pump rate, the back ***pressure*** and the total vol. of the system but not by the swelling of the sensor polymer. A comparative study of ion effects demonstrated a fundamental correlation of the polymer swelling properties with the Hofmeister series of ***chaotropic*** agents. Thus, it is concluded that the photopolymer, which is ***solubilized*** in aq. solns. by the interaction of its amide structure with the solvent, behaves like the backbone amide structure of ***proteins*** .

L18 ANSWER 42 OF 78 CAPLUS COPYRIGHT 2000 ACS
AN 1995:319971 CAPLUS
DN 122:75431
TI Second derivative spectroscopy of enolase at high hydrostatic pressure: An approach to the study of macromolecular interactions
AU Kornblatt, Jack A.; Kornblatt, Mary Judith; Hoa, Gaston Hui Bon
CS Department of Biology, Concordia University, Montreal, PQ, H3G 1M8, Can.
SO Biochemistry (1995), 34(4), 1218-23
CODEN: BICHAW; ISSN: 0006-2960
DT Journal
LA English
AB Second-deriv. spectroscopy in the UV region of ***proteins*** has previously been used to study the polarity of the regions surrounding Tyr residues. Here, it is shown that it can also be a tool to study the degree to which ***proteins*** assoc. and that it can be effectively combined with hydrostatic ***pressure*** in order to evaluate equil. ***dissocn*** . consts. and reaction vols. Hydrostatic ***pressure*** causes yeast enolase to ***dissoc*** . Clear changes in the 2nd-deriv.

DN 104:84932
TI Structure with membranes having pores extending throughout, and its uses
IN Sleytr, Uwe B.; Sara, Margit
PA Austria
SO Eur. Pat. Appl., 41 pp.
CODEN: EPXXDW
DT Patent
LA German
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 154620	A2	19850911	EP 1985-890058	19850311
	EP 154620	A3	19860108		
	EP 154620	B1	19910731		
	R: AT, BE, CH, FR, GB, IT, LI, NL, SE				
	AT 8400797	A	19860115	AT 1984-797	19840309
	AT 381463	B	19861027		
	IL 74530	A1	19880731	IL 1985-74530	19850307
	WO 8504111	A2	19850926	WO 1985-EP89	19850308
	WO 8504111	A3	19851107		
	W: DK, HU, JP, SU, US				
	DD 237793	A5	19860730	DD 1985-273962	19850308
	JP 61501619	T2	19860807	JP 1985-501745	19850308
	JP 04054485	B4	19920831		
	HU 43501	A2	19871130	HU 1985-2181	19850308
	HU 200704	B	19900828		
	CA 1286065	A1	19910716	CA 1985-476037	19850308
	AT 65716	E	19910815	AT 1985-890058	19850311
	US 4752395	A	19880621	US 1985-795349	19851028
	DK 8505174	A	19851108	DK 1985-5174	19851108
	DK 164085	B	19920511		
	DK 164085	C	19921012		
	US 4849109	A	19890718	US 1988-174127	19880328
	WO 8909406	A1	19891005	WO 1989-AT31	19890328
	W: AU, JP, US				
	RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
	AU 8934357	A1	19891016	AU 1989-34357	19890328
	AU 634960	B2	19930311		
	EP 362339	A1	19900411	EP 1989-903662	19890328
	EP 362339	B1	19950531		
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	JP 02504282	T2	19901206	JP 1989-503929	19890328
	US 5028335	A	19910702	US 1989-348779	19890508

PRAI	AT 1984-797	19840309
	WO 1985-EP89	19850308
	EP 1985-890058	19850311
	US 1985-795349	19851028
	US 1988-174127	19880328
	WO 1989-AT31	19890328

AB Ordered ***protein*** membranes with 1-8-nm pores are bound on or within a porous carrier to provide a structure useful for ultrafiltration, gas sepn., permeation chromatog., pharmaceutical capsules, biodegradable packaging, etc. For example, Bacillus stearothermophilus cells were sonicated and the S-layer of the cell envelope was sepd. from the cell membrane and peptidoglycan layer and ***solubilized*** with 5M ***guanidine*** -HCl. The soln. was dialyzed against 10 mM CaCl2. During dialysis, the ***protein*** of the S-layer assocd. to form

spectra of enolase were obsd. as the ***pressure*** was increased. At enclase concns. of .apprx.20 .mu.M, the midpoint of the transition was .apprx.1800 bar. All aspects of the transition were reversible up to 2700 bar. Apparently, the transition obsd. is the result of enolase dimers ***dissocg*** . into monomers. The 2nd-deriv. spectra indicated that .gtoreq.1 Tyr residues is in an unusually polar environment in the dimer, an environment that is less polar in the monomer. Three Tyr residues (Tyr-61, Tyr-11, and Tyr-130) were near the dimer interface. Tyr-6 and Tyr-11 were pointing into the water-filled crevice between the subunits and were close to several immobilized waters. All 3 were close to a network of intersubunit salt bridges and H-bonds. The av. Tyr polarity in the dimer appears to reflect the exposure of these Tyr residues to immobilized water and the fixed dipole of the salt bridge. The water in the crevice between the subunits should be more mobile in the monomer; the salt bridge does not exist in the monomer. In contrast to the behavior of native enolase under ***pressure*** , the same ***protein*** in ***guanidine*** -HCl showed no obvious changes with ***pressure*** . Similarly, the small ***protein*** , hen egg-white lysozyme, showed no change in the 2nd deriv. as a function of ***pressure*** .

L18 ANSWER 43 OF 78 CAPLUS COPYRIGHT 2000 ACS
AN 1988:18051 CAPLUS
DN 108:18051
TI Interactions of mitochondrial precursor protein apocytochrome c with phosphatidylserine in model membranes. A monolayer study
AU Pilon, M.; Jordi, W.; De Kruijff, B.; Demel, R. A.
CS Dep. Biochem., State Univ. Utrecht, Utrecht, 3584 CH, Neth.
SO Biochim. Biophys. Acta (1987), 902(2), 207-16
CODEN: BBACAQ; ISSN: 0006-3002
DT Journal
LA English
AB The interaction of apocytochrome c (I) with different mol. species of phosphatidylserine (PS) was studied using monolayers at const. surface area or const. surface ***pressure*** . I inserted readily into dioleoylphosphatidylserine (DOPS) monolayers up to a liming ***pressure*** of 50 mN/m, whereas the interaction decreased with increasing mol. packing of the PS species, indicating the importance of the hydrophobic core of the lipid layer for the interaction. The high affinity of I for DOPS was indicated by the low ***dissocn*** . const. (Kd) of 0.017 .mu.M. There was little or no interaction with phosphatidylcholines. The importance of charge interactions was underlined by its ionic strength and pH dependency. Expts. using 14C-labeled I indicated that cholesterol could enhance ***protein*** binding. I monomers penetrated the monolayer, whereas oligomers could be formed in an adsorbed layer and washed off without changing the surface ***pressure*** . Preincubation of I in 3M ***guanidine*** , to obtain the monomeric form, was essential to measure the full effect of interfacial interaction. The mol. area of I changed from 1200-1300 .ANG.2/mol. in the absence of lipid to 700-900 .ANG.2/mol. after penetration of DOPS monolayers. I-DOPS interactions were only possible when the monolayer was approached from the subphase. It was concluded that the charge interactions are required for binding and penetration of I.

L18 ANSWER 44 OF 78 CAPLUS COPYRIGHT 2000 ACS
AN 1986:84932 CAPLUS

P-membranes with a square lattice structure, a periodicity of 14 nm, and a max. dimension of about 15 .mu.m. The membrane suspension was passed under ***pressure*** through a polycarbonate microfilter having 0.1-.mu.m pores to provide 25 .mu.g of P-membranes per cm2 of filter. The P-membranes on the filter were then crosslinked with glutardialdehyde. The resulting ultrafiltration membrane gave good sepn. of materials with closely similar mol. wts., e.g. of subtilisin (27,000 daltons) from ovalbumin (43,000 daltons), with a flow rate at 2 .times. 105 Pa of 480 L/h/m2.

L18 ANSWER 45 OF 78 CAPLUS COPYRIGHT 2000 ACS
AN 1985:58367 CAPLUS
DN 102:58367
TI High ***pressure*** ***dissociation*** of lactate dehydrogenase from Bacillus stearothermophilus and reconstitution of the ***enzyme*** after denaturation in 6 M ***guanidine*** hydrochloride
AU Mueller, K.; Seifert, T.; Jaenicke, R.
CS Inst. Biophys. Phys. Biochem., Univ. Regensburg, Regensburg, D-8400, Fed. Rep. Ger.
SO Eur. Biophys. J. (1984), 11(2), 87-94
CODEN: EBJOE8
DT Journal
LA English
AB Tetrameric lactate dehydrogenase from B. stearothermophilus exhibits unusual stability towards high hydrostatic ***pressure*** ; in contrast to the mesophilic ***enzyme*** , incubation at ***pressures*** (P) .ltoreq.2.8 kbar does not cause irreversible denaturation. Hybridization under these conditions suggests partial ***dissocn*** . to the dimer, indicating that reassocn. occurs within the dead-time after ***pressure*** release (<20 s at .ltoreq.40 .mu.g/mL, 20.degree.). Incubation at P < 2.8 kbar affects neither the native quaternary structure nor the catalytic function of the ***enzyme*** . Reconstitution of the unfolded and ***dissocd*** . subunits after denaturation, e.g., in 6M ***guanidine*** -HCl, is characterized by fast assocn. favoring the native assembled structure. Spectroscopic measurements show that reconstitution starts with a fast refolding reaction generating a nativelike conformation. The subsequent rate-detg. transconformation of the structured monomers governs the kinetics of reactivation and reassocn. as a single 1st-order process. Chem. crosslinking with glutaraldehyde proves that the structured monomers undergo fast assocn. to form the tetrameric final state of reconstitution, with significant amts. of dimeric intermediates being detectable. The renatured ***enzyme*** is indistinguishable from the native ***enzyme*** regarding its physicochem. and enzymol. properties (e.g., activation by fructose 1,6-diphosphate, and susceptibility to proteolytic digestion).

L18 ANSWER 46 OF 78 CAPLUS COPYRIGHT 2000 ACS
AN 1980:210930 CAPLUS
DN 92:210930
TI Denaturation and renaturation of bovine liver glutamic dehydrogenase after dissociation in various denaturants
AU Mueller, Klaus; Jaenicke, Rainer
CS Inst. Biophys. Phys. Biochem., Univ. Regensburg, Regensburg, D-8400, Fed. Rep. Ger.
SO Z. Naturforsch., C: Biosci. (1980), 35C(3-4), 222-8
CODEN: ZNCBDA; ISSN: 0341-0382
DT Journal

LA English
AB Oligomeric glutamate dehydrogenase from bovine liver was ***dissocd*** . to inactive monomers (mol. wt. = 56,000) under a wide variety of conditions: 3 .gtoreq.pH.gtoreq.12, 6M ***guanidine*** -HCl, 6M ***urea*** , 0.2% Na dodecyl sulfate. High hydrostatic ***pressure*** (<1 kbar) only affected the assocn. equil. of the native hexamer to higher polymers. The resp. reaction vol. (.DELTA.V = 28 mL/mol at 298 K, 1 bar) was linearly dependent on temp. and ***pressure*** (p). At p >1.5 kbar, ***dissocn*** . of the hexamer occurred, this reaction was accompanied by irreversible deactivation. Depending on the denaturant applied for the monomerization, the final conformational state of the ***polypeptide*** chain differed widely regarding its residual structure. As taken from laser light scattering measurements, the rate of ***dissocn*** . at pH 1.8 followed 1st-order kinetics with a rate const. k1 = 0.42 s-1. In the range of the oligomer .dblarw. monomer transition, ***dissocn*** . was accompanied by irreversible ***aggregation*** leading to inactive high mol. wt. material. At low concn. (<5 .mu.g/mL) this side reaction could be slowed down, so that the reconstitution of the ***enzyme*** could be monitored using spectroscopic techniques. Concn.-dependent stopped-flow expts. proved the regain of fluorescence to be a rapid 1st-order process; the resp. half-times at pH 7.4 were 2.0 ms and 0.7 ms for the renaturation from 6M ***guanidine*** -HCl, pH 6, and pH .apprx.2, resp. The product of reconstitution showed the fluorescence and CD pattern characteristic for the native ***enzyme*** . However, no reactivation could be achieved under any of the following conditions: optimum protection against chem. modification; variation of ***enzyme*** concn., temp., and hydrostatic ***pressure*** ; addn. of specific ligands such as coenzymes, substrates, ADP, membrane constituents (cardiolipin, electron transfer particles). Apparently, the renaturation of glutamate dehydrogenase is governed by a side reaction which causes ***aggregation*** of intermediates instead of reconstitution of the native ***enzyme*** .

L18 ANSWER 47 OF 78 CAPLUS COPYRIGHT 2000 ACS
AN 1978:117423 CAPLUS
DN 88:117423
TI Enzymic reagent and its use in a procedure for improving the sensitivity of enzymic substrate analyses using oxygen determination analyzers
IN Polito, Carole A.
PA Beckman Instruments, Inc., USA
SO Ger. Offen., 13 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2729125	A1	19780202	DE 1977-2729125	19770628
	DE 2729125	C2	19850328		
	US 4116773	A	19780926	US 1976-701920	19760701
	CA 1081588	A1	19800715	CA 1977-279682	19770602
	CH 621871	A	19810227	CH 1977-7581	19770621
	FR 2356938	A1	19780127	FR 1977-19323	19770623
	FR 2356938	B1	19810821		
	BE 856291	A1	19771017	BE 1977-178928	19770630
	JP 53033688	A2	19780329	JP 1977-77991	19770701
	JP 56042920	B4	19811007		

PRAI US 1976-701920 19760701

AB The prepn. of an enzymic reagent, consisting of an ***enzyme*** in a buffered soln. contg. a salt or mixt. of salts, for use in the kinetic measurement of substrate concns. by means of an O analyzer is described. The salt or salt mixt. in the medium must decrease the O water-***soly*** . by at least 30%, thereby increasing the sensitivity of the substrate detn. by increasing the output-signal strength in the O analyzer. In a given medium, the partial ***pressure*** of O is proportional to the concn. When the ***soly*** . is decreased, the proportionality const. is greater and a given decrease in O concn. leads to a greater partial ***pressure*** change and thus a greater output-signal strength. The effects of various salts in increasing the output-signal strength in the detn. of cholesterol using cholesterol oxidase and cholesterol esterase, in the detn. of glucose using glucose oxidase, and in the detn. of ***urea*** using uricase are given; e. g., in the cholesterol assay, 1.0M KH2PO4 and Na2HPO4 and 0.75M (NH4)2SO4 increase the signal 10-fold, 0.50M Na2SO4 increases the signal 7-fold, and 0.50M KH2PO4 and Na2HPO4 and 1.50M KCl increase the signal 4-fold.

L18 ANSWER 48 OF 78 CAPLUS COPYRIGHT 2000 ACS

AN 1977:135214 CAPLUS

DN 86:135214

TI Surface properties of membrane systems. Transport of staphylococcal .delta.-toxin from aqueous to membrane phase

AU Colacicco, G.; Basu, M. K.; Buckelew, A. R., Jr.; Bernheimer, A. W.

CS Dep. Pathol., Albert Einstein Coll. Med., Bronx, N. Y., USA

SO Biochim. Biophys. Acta (1977), 465(2), 378-90
CODEN: BBACAQ

DT Journal

LA English

AB Hemolytic .delta.-toxin from Staphylococcus aureus spread readily from distd. water into films with ***pressures*** (.pi.) of 10 dynes/cm on water and 30 dynes/cm on 6M ***urea*** ; from CHCl3-MeOH, it produced 40 dynes/cm ***pressure*** on distd. water. The ***protein*** films had unusually high surface potentials, which increased with the film ***pressure*** and decreased with both increasing pH and ***urea*** concn. in the aq. phase. The fluorescence of 1-anilino-8-naphthalenesulfonate with .delta.-toxin indicated a marked lipid-binding character of the toxin. By CD, the .alpha.-helix content of .beta.-toxin was 42% in water, 45% in MeOH, and 24% in 6M ***urea*** . IR spectroscopy showed predominant .alpha.-helix in both 2H2O and deuterated CHCl3-MeOH as well as in films spread from either solvent on 2H2O. In spreading from 6M ***urea*** -2H, the .delta.-toxin film showed prevalently non-.alpha.-helix structures with major peak intensities at 1633 cm-1 > 1680 cm-1, indicating the appearance of new .beta.-***aggregated*** and .beta.-antiparallel pleated sheet structures in the film. Thus, high ***pressure*** ***protein*** films can consist of .alpha.-helix as well as non-.alpha.-helix structures, and .delta.-toxin does not resume the .alpha.-helix conformation in going into the film phase from the extended chain in 6M ***urea*** . Conformational changes are apparently important in the transport of ***proteins*** from aq. to lipid or membrane phase.

L18 ANSWER 49 OF 78 CAPLUS COPYRIGHT 2000 ACS

AN 1975:107897 CAPLUS

DN 82:107897

TI Primitive control of cellular metabclism
AU Mitz, M. A.
CS NASA, Washington, D. C., USA
SO Origin Life Evol. Biochem. (1974), 331-8. Editor(s): Dose, Klaus; Fox, S. W.; Deborin, G. A. Publisher: Plenum, New York, N. Y.
CODEN: 29QCAB
DT Conference
LA English
AB A model is presented for a primitive, hormonelike control mechanism based on certain metabolic products which operate directly on the biochem. and phys. properties of the cell. This simple mechanism could have started with the first organized lifelike system. Certain metabolic products, esp. CO2, may control the rate of metab., the growth, and possibly reprodn. of the cell. Certain ***enzymes*** , not necessarily related to CO2 metab., may be modulated by the ***solubilizing*** and ***dissocg*** . effects of the rise and fall of CO2 partial ***pressure*** in the cell. Growth could occur through the ability of the CO2 partial ***pressure*** to influence phys. properties of the cellular structure, such as porosity of the cell membrane and plasticity of the lipids. Reprodn. may simply be a consequence of the build-up of cellular CO2 to a crit. value at which the cell changes its surface-to-vol. ratio to contain the ***pressure*** . Such effects as changes in charge may also contribute to enable division of internal cell structures. Similar control mechanisms are proposed for O, CO, H2S, and ***urea*** .

L18 ANSWER 50 OF 78 CAPLUS COPYRIGHT 2000 ACS
AN 1974:531778 CAPLUS
DN 81:131778
TI Interaction of bovine plasma albumin with cationic detergents at pH 9
AU Aoki, Koichiro; Hiramatsu, Koichi
CS Dep. Synth. Chem., Gifu Univ., Kagamigahara, Japan
SO Anal. Biochem. (1974), 60(1), 213-25
CODEN: ANBCA2
DT Journal
LA English
AB The interaction of bovine plasma albumin (BPA) with tetradecyltrimethylammonium bromide (TTAB) [1119-97-7] was studied at pH 9.0. When the system BPA-TTAB was analyzed by gel electrophoresis, the pattern changed with the molar mixing ratio (TTAB/BPA). At molar mixing ratio 12, e.g., zones 1, 2, 3, 4, and 5 were obsd. Component 1 is a monomer and component 2 is a dimer of BPA. Components 3-5 are further ***aggregates*** of BPA. Thus, the intermol. SH-SS exchange reaction occurred between BPA mols. unfolded by the cationic detergent, leading to the formation of a series of lower ***aggregates*** of BPA. Under some conditions, partial pptn. of BPA occurred. Components 1' and 1", which are modified monomers, were obsd. at certain concns. of detergent. A series of cationic detergents differing in the length of hydrocarbon chain C6-C12 was also studied. Including TTAB, the longer the hydrocarbon chain, the more marked was the effect on BPA. The effect of cationic detergent on BPA resembled that of ***urea*** insofar as gel electrophoresis is concerned. Furthermore the denaturation of BPA by cationic detergent resembled that by heat and by high ***pressure*** . These 4 agents are initiators of SH-SS exchange reaction for the ***protein*** . The effect of cationic detergent differed entirely from that of the anionic detergent such as Na dodecyl sulfate (SDS). The anionic detergent did not initiate the intermol. exchange reaction at pH

9.0 even when the molar mixing ratio SDS/BPA was high enough to make BPA unfold.

L18 ANSWER 51 OF 78 CAPLUS COPYRIGHT 2000 ACS
AN 1971:135618 CAPLUS
DN 74:135618
TI Quaternary structure and conformation of lactic dehydrogenase and glyceraldehyde-3-phosphate dehydrogenase
AU Jaenicke, Rainer
CS Inst. Phys. Chem., Univ. Frankfurt/Main, Frankfurt/M., Ger.
SO Pyridine Nucleotide-Dependent Dehydrogenases, Proc. Advan. Study Inst. (1970), Meeting Date 1969, 71-90. Editor(s): Sund, Horst. Publisher: Springer, Berlin, Ger.
CODEN: 22QSAA
DT Conference
LA English
AB The title ***enzymes*** LDH (from various sources) and GPD from yeast were ordinarily monodisperse tetramers. At high dilns., both ***dissocd*** . and LDH reached the monomeric state. The ***dissocn*** . equil. favored the assocd. state. Both LDH and GPD were enzymically active in the tetrameric state. However, some expts. indicated that LDH was most active as the dimer or even the monomer. Changes in the state of ***aggregation*** appeared to be assocd. with conformational changes of secondary and tertiary structure. ***Dissocn*** . in ***urea*** , ***guanidine*** , or acidic solns. could give complete denaturation. However, transconformation and denaturation were reversible under some conditions. There was clear evidence that high ***pressures*** (p .ltoreq.1000 atm.) favored ***dissocn*** . The activity of LDH seemed unaffected by as much as 30% by vol. dioxane. Both GPD and LDH showed a strong tendency to form high mol. wt. ***aggregates*** in Na dodecyl sulfate.

L18 ANSWER 52 OF 78 CAPLUS COPYRIGHT 2000 ACS
AN 1970:400262 CAPLUS
DN 73:262
TI Chemical and physical characterization of ovomucin, a sulfated glycoprotein complex from chicken eggs
AU Donovan, John W.; Davis, John Gorton; White, Lawrence M.
CS Western Reg. Res. Lab., Albany, Calif., USA
SO Biochim. Biophys. Acta (1970), 207(1), 190-201
CODEN: BBACAQ
DT Journal
LA English
AB A prepn. of ovomucin from chicken egg white was shown to be essentially free of other egg white ***proteins*** by starch-gel electrophoresis. It contained 83.3% anhydroamino acids, 2.2% total S, 0.44% sulfate S and 14.2% total N. The ***protein*** portion of ovomucin contained 16.6% N. The 18.6% carbohydrate consisted of 7.2% hexosamine, 7.4% hexose and 4.0% sialic acid. The amino acid, compn. is similar to that of ovomucoid. The ovomucin was characterized by free-boundary electrophoresis, ultracentrifugation by osmotic ***pressure*** and viscosity measurements, and by electron microscopy. When ***disaggregated*** in 6M ***guanidine*** .HCl plus 0.2M mercaptoethanol, the resulting glycopeptide chains had a no.-av. mol. wt. of 1.1 .times. 105 and a viscosity-av. mol. wt. of 1.6 .times. 105. ORD and CD measurements indicate that ovomucin has little .alpha.-helix content. Both a0 and b0

show only minor changes with pH or upon addn. of mercaptoethanol, although the intrinsic viscosity, a strong function of salt concn., is markedly decreased by addn. of mercaptoethanol. Ovomucin is probably composed of extended glycoprotein chains held together by SS cross-links. It appears inherently heterogeneous.

L18 ANSWER 53 OF 78 CAPLUS COPYRIGHT 2000 ACS
AN 1970:107395 CAPLUS
DN 72:107395
TI Subunit structure of L-ribulokinase from Escherichia coli
AU Lee, Nancy; Patrick, James W.; Barnes, Nora B.
CS Dep. of Biol. Sci., Univ. of California, Santa Barbara, Calif., USA
SO J. Biol. Chem. (1970), 245(6), 1357-61
CODEN: JBCHA3
DT Journal
LA English
AB L-Ribulokinase from E. coli B/r has a mol. wt. of 98,000 by sedimentation-diffusion, sedimentation equil., and osmotic ***pressure*** measurements. Protonation of L-ribulokinase or treatment with 8M ***urea*** results in the ***dissocn*** . of the native ***enzyme*** into 2 subunits of mol. wt. 49,500 (pH 2.0) and 50,200 (***urea***). The subunits are identical by size and charge, as evidenced by their sedimentation and electrophoretic behavior. Both subunits appear to have masked N-terminal end groups. There are 14 methionine residues per mol. of native L-ribulokinase, and after cleavage with CNBr 7 bands were obsd. by electrophoresis in acrylamide gels. All evidence is consistent with L-ribulokinase being a dimer of identical ***polypeptide*** chains.

L18 ANSWER 54 OF 78 CAPLUS COPYRIGHT 2000 ACS
AN 1970:838 CAPLUS
DN 72:838
TI Protein complement of a Cyanophyceae, Spirulina platensis
AU Cozzone, Alain; Busson, Felix
CS Lab. Biochim. Nutr., Serv. Sante Armees, Marseilles, Fr.
SO C. R. Acad. Sci., Ser. C (1969), 269(10), 573-6
CODEN: CHDCAQ
DT Journal
LA French
AB Sol. ***protein*** was extd. from S. platensis by sonic distintegration, high - ***pressure*** pressing in phosphate buffer, or by high- ***pressure*** pressing in ph osphate buffer contg. 8M ***urea*** . The max. amt. of ***protein*** ***solubilized*** by each treatment was 78, 75, and 93%, resp. The sol. ***protein*** was pptd. with Cl3CCO2H, redissolved in 0.1N NaOH, and then dialyzed vs. phosphate- ***urea*** buffer at pH 8.0. At this pH, the ***proteins*** were sepd. into anionic and cationic fractions using ion-exchange resins. Of the total ***protein*** , .apprx.25-7% was cationic and .apprx.73-5% was anionic at pH 8.0. Both fractions were individually hydrolyzed at 140.degree. in 6N HCl, and their amino acid compns. detd. chromatographically.

L18 ANSWER 55 OF 78 CAPLUS COPYRIGHT 2000 ACS
AN 1969:458945 CAPLUS
DN 71:58945

TI Chemistry of lens nuclear sclerosis
AU Zigman, Seymour; Schultz, Julius; Yulo, T.
CS Sch. of Med. and Dent., Univ. of Rochester, Rochester, N. Y., USA
SO Biochem. Biophys. Res. Commun. (1969), 35(6), 931-8
CODEN: BBRCA9
DT Journal
LA English
AB Rat lenses were homogenized in water and after removal of sol. ***protein*** the H2O-insol. ***protein*** was suspended in 7M ***urea*** for 0.5 hr. and 2 forms of this insol. ***protein*** were isolated. The ***urea*** -sol. form found mainly in the cortex of the lens, contained nearly equal levels of .alpha.- and .gamma.-crystallin. This fraction represents a noncovalently linked, weakly assocd. ***protein*** ***aggregate*** , probably held together by H bonds and hydrophobic attractions. The ***urea*** -insol. form was found mainly in the nucleus of the lens and contained mostly .gamma.-crystallin. It is held together by covalent linkages such as SS bonds. There are strong indications that nuclear sclerosis during aging is due to the conversion of the ***urea*** -sol. form to the ***urea*** -insol. form. This change depends on dehydration, SH unmasking, ***pressure*** , and .gamma.-crystallin content.

L18 ANSWER 56 OF 78 CAPLUS COPYRIGHT 2000 ACS
AN 1969:457496 CAPLUS
DN 71:57496
TI Isoelectric separation of urinary Bence-Jones proteins and light chains of human IgG
AU Gerber, Heinz; Barandun, Silvio
CS Swiss Center Clin. Tumor Res., Bern, Switz.
SO Separ. Sci. (1969), 4(1), 51-67
CODEN: SESCAI
DT Journal
LA English
AB Urinary Bence-Jones ***proteins*** (BJP) from 3 patients and 2 prepns. of light chains from normal human immunoglobulins (IgG) were subjected to isoelec. sepn. ***Proteins*** were pptd. by stepwise addn. of solid (NH4)2SO4, dissolved, and purified by centrifugation, Sephadex column, and DEAE-Sephadex column. The ***protein*** was concd. to 0.2-2% by ***pressure*** dialysis against 1% glycine. Pooled human IgG from Cohn fraction II was purified by DEAE-Sephadex column and SS bonds were cleaved by limited oxidative sulfitolysis or by redn. with mercaptoethanol and alkylation with iodoacetamide. Products were purified by gel filtration on 3 Sephadex columns. BJP were sepd. in acrylamide gels and dialyzed against gel buffer. Light chains were sepd. in acrylamide gel and dialyzed. Disc electrophoresis was carried out on large-pore gel and ***proteins*** were fixed and stained with Coomassie Brilliant Blue R-MeOH-HOAc soln. Electrofocusing expts. were done according to Vesterberg and Svensson, but with a combined sucrose d. and pH gradient. The isoelec. points (IEP) were detd. by measuring pH at the point of max. concn. In the screening range pH 3-10 nearly all ***proteins*** were located within pH 5-7. The IEP for BJP from 2 patients were 7.8 and 4.6, resp. Isoelec. sepn. of BJP from the 3rd patient was done in pH 5-7 and pH 6-6.5 gradients and the BJP had 2 major components with IEP of 6.35 and 6.20, resp. Addn. of ***urea*** to the mixt. to avoid pptn. of BJP did not affect the IEP. Light chains prepd. by oxidative sulfitolysis and

alkylation were in the pH 5.0-8.0 and pH 5.3-8.2 range, resp. It was concluded that the limitations of the method are stability and ***soly*** . of the ***proteins*** , although recovery of the ***proteins*** examd. was nearly 100% and ***soly*** . was improved by the addn. of ***urea*** .

L18 ANSWER 57 OF 78 CAPLUS COPYRIGHT 2000 ACS
AN 1968:56848 CAPLUS
DN 68:56848
TI Purification and subunit structure of glutathione reductase from bakers' yeast
AU Mavis, Richard D.; Stellwagen, Earle
CS Univ. of Iowa, Iowa City, Iowa, USA
SO J. Biol. Chem. (1968), 243(4), 809-14
CODEN: JBCHA3
DT Journal
LA English
AB A scheme has been devised for the purification of glutathione reductase from bakers' yeast. The purified ***protein*** is homogeneous with respect to chromatographic, electrophoretic, and sedimentation criteria. A mol. wt. of 1.24 .+-. 0.05 .times. 105 was calcd. for the ***protein*** from sedimentation equil. and osmotic ***pressure*** measurements. In the presence of 5M ***guanidine*** -HCl, the mol. wt. is reduced to 5.15 .+-. 0.3 .times. 104 calcd. from sedimentation equil. expts., assuming no preferential interaction with the solvent, or to 5.60 .times. 104 calcd. from osmotic ***pressure*** measurements. These values indicate that the native ***protein*** contains 2 ***polypeptide*** chains. The ***dissocd*** . ***polypeptide*** chains appear identical with respect to net charge and mol. size. The native ***enzyme*** contains 2 moles of FAD/mole of ***protein*** . Both FAD moieties can be sepd. from the ***dissocd*** . ***protein*** by dialysis or electrophoresis, indicating that FAD is attached to the native ***protein*** by noncovalent bonds.

L18 ANSWER 58 OF 78 CAPLUS COPYRIGHT 2000 ACS
AN 1968:9355 CAPLUS
DN 68:9355
TI Determination of the subunits of arachin by osmometry. Arachins A, B, and A1
AU Tombs, M. P.; Love, M.
CS Unilever Res. Lab., Bedford, Engl.
SO Biochem. J. (1967), 105(1), 181-7
CODEN: BIJOAK
DT Journal
LA English
AB Osmotic ***pressure*** detns. of ***dissocd*** . arachins are a suitable method for detn. of the no. of subunits in the ***protein*** because they yield a no.-av. mol. wt. Arachin in 8M ***urea*** -0.1M sulfite produces 12 subunits from the form of mol. wt. 345,000. When the ***urea*** concn. is varied, the mols. become fully ***dissocd*** . at 6M ***urea*** -0.1M sulfite. Although sulfite is necessary to break disulfide bridges, concns. >0.1M cause a reaggregation of the subunits. Similar results were obtained in ***guanidine*** solns. A new arachin (A1) migrating more rapidly than arachin A was discovered. The N-terminal residues of purified arachin were glycine, valine, and isoleucine in the proportions 4:1:1. The 3 forms of arachin have the structure (B) .beta.4.gamma..delta., (A) .alpha.2.beta.2.gamma..delta., and (A1)

.alpha.4.gamma..delta. for the forms of mol. wt. 170,000. ***Dissocn*** . in 8M ***urea*** produces some fragments, detected by gel electrophoresis, which appear to be dimers of the type .alpha.-S-S-.beta., .beta.-S-S-.beta., held together by disulfide bonds. 14 references.

L18 ANSWER 59 OF 78 CAPLUS COPYRIGHT 2000 ACS
AN 1967:450364 CAPLUS
DN 67:50364
TI Chemistry of hemoglobin. II. Effect of salts on the dissociation
AU Guidotti, Guido
CS Harvard Univ., Boston, Mass., USA
SO J. Biol. Chem. (1967), 242(16), 3685-93
CODEN: JBCHA3
DT Journal
LA English
AB cf. preceding abstr. The ability of several salt solns. to ***dissoc*** . the tetrameric form of the Hb mol. into dimers was studied by measuring the osmotic ***pressure*** of solns. of Hb. Under most circumstances, the ***dissocn*** . reactions had the normal dependence on concn. of Hb, and thus values of the ***dissocn*** . consts. could be estd. In all the solvents studied here, the sequence of decreasing stability of the tetramer was deoxy-Hb > CO-Hb > oxy-Hb cyanmethemoglobin. This result was interpreted as providing further evidence for differences in conformation, not only between the liganded Hbs and deoxy-Hb, but also among the various liganded Hbs. Similar studies done with iodoacetamide-treated and N-ethylmaleimide-treated Hbs indicated that the latter deriv. differs in conformation from normal Hb whereas the former does not, by these criteria. Finally, the ability of the various salts to promote ***dissocn*** . did not depend only on their contribution to the ionic strength of the solvent but also, and in some cases in large part, depended on specific interactions between the salt ions and the ***protein*** mols. The order of effectiveness of the salts in ***dissocg*** . the Hb tetramers was NaI > ***guanidinium*** chloride > NaClO4 > MgCl2 > NaCl NaOAc. 43 references.

L18 ANSWER 60 OF 78 CAPLUS COPYRIGHT 2000 ACS
AN 1967:102299 CAPLUS
DN 66:102299
TI Radiation-produced aggregation and inactivation in egg white lysozyme
AU Stevens, Clarence Obadiah; Sauberlich, Howerde E.; Bergstrom, Glenn R.
CS U.S. Arym Med. Res. and Nutr. Lab., Fitzsimons Gen. Hosp., Denver, Colo., USA
SO J. Biol. Chem. (1967), 242(8), 1821-6
CODEN: JBCHA3
DT Journal
LA English
AB Chromatographically homogeneous egg white lysozyme was subjected under reduced ***pressure*** to 0.67-Mev. .gamma.-rays. At 37% destruction of enzymic activity, 3 inactive ***aggregates*** and 1 partially active fraction were isolated by salt pptn. and chromatographic procedures. The ***aggregates*** , upon redn. with 2-mercaptoethanol and reaction with iodoacetic acid, gave derivs. with mol. wts. of 12,000-15,750 in comparison with one of 14,500 for reduced carboxymethylated lysozyme. One ***urea*** -insol. ***aggregate*** became sol. upon redn. and, after air oxidn. in dil. soln., gave active ***enzyme*** in 15% yield. Mixed disulfides of cystine and this or

other inactive fractions also gave significant (10-20%) yields of active ***enzyme*** upon incubation with cysteine. Disulfide analyses showed close to the expected no. of SS bonds in 2 of the mixed disulfide derivs. if one assumes no fragmentation but simply ***aggregation*** of lysozyme monomer mols. Amino acid and SS content of the active component from reactivation of one mixed disulfide deriv. agreed well with that found for the active component from reactivation of the mixed disulfide of native lysozyme. Thus, a significant portion (15-20%) of radiation inactivation in solid lysozyme can be explained by the rupture of SS bonds followed by formation of "incorrect" intermol. SS bonds. 29 references.

L18 ANSWER 61 OF 78 CAPLUS COPYRIGHT 2000 ACS
AN 1967:52266 CAPLUS
DN 66:52266
TI Effect of ionic strength on the molecular weight and conformation of wheat gluten proteins in 3M ***urea*** solutions
AU Wu, Y. Victor; Cluskey, James E.; Sexson, Kenneth R.
SO Biochim. Biophys. Acta (1967), 133(1), 83-90
CODEN: BBACAQ
DT Journal
LA English
AB The influence of ionic strength on the physicochem. properties of wheat gluten ***proteins*** in a 3M ***urea*** soln. was studied by osmotic ***pressure*** , O.R.D., intrinsic viscosity, and sedimentation velocity measurements. The no.-av. mol. wts. of wheat gluten in and gliadin by osmotic ***pressure*** at 25.degree. between pH 4.7 and 7.5 are 67,300 and 46,600, resp., and are const. with changes in ionic strength between 0.0025 and 0.15. Gluten in and gliadin are considerably ***aggregated*** in Al lactate buffer at pH 3.2-3.4 and have mol. wts. of 224,000 and 81,200, resp., but in 3M ***urea*** plus Al lactate buffer, the mol. wt. of gluten in is not much higher than 67,300. The sedimentation coeff. of glutenin and gliadin in 3M ***urea*** plus KCl is not altered by changes in ionic strength between 0.0025 and 0.5 (pH 4.8-5.8). Because the osmotic mol. wt. and sedimentation coeff. are const., other phys. changes noted are caused by structural changes other than ***aggregation*** . Both ***proteins*** appear to contain a mixt. of .alpha.-helix and random-coil structure based on the interpretation of O.R.D. data. Gliadin contains more helix than glutenin. Based on these measurements, there appears to be an increase of helical content in glutenin with an increase in ionic strength, but with no significant change in gliadin. Intrinsic viscosities measured in these solvents suggest that glutenin and gliadin mols. have relatively high axial ratios. The intrinsic viscosities decrease with increasing ionic strength, and the change is greater with glutenin. These observations are consistent with a more constrained structure for gliadin as compared with glutenin. 18 references.

L18 ANSWER 62 OF 78 BIOSIS COPYRIGHT 2000 BIOSIS
AN 1985:308770 BIOSIS
DN BA79:88766
TI EVIDENCE FOR A VASODEPRESSOR EFFECT OF THE ANGIOTENSIN-CONVERTING ENZYME INHIBITOR MK-421 ENALAPRIL INDEPENDENT OF BLOCKADE OF ANGIOTENSIN II FORMATION.
AU WILKES B M
CS DIV. NEPHROL./HYPERTENSION, NORTH SHORE UNIV. HOSP., 300 COMMUNITY DRIVE, MANHASSET, N.Y. 11030.
SO J CARDIOVASC PHARMACOL, (1984 (RECD 1985)) 6 (6), 1036-1042.

CODEN: JCPCDT. ISSN: 0160-2446.
FS BA; OLD
LA English
AB The effects of acute and chronic angiotensin-converting ***enzyme*** (ACE) inhibition with MK421 (enalapril maleate) on angiotensin II formation were studied in Na+-restricted rats. Male Sprague-Dawley rats were placed on a low-Na+ diet (< 0.04 meq Na+/24 h) with daily injections of furosemide (1 mg/kg i.p.) for 5 days, and were studied at either 5 days or 3 wk. Half the rats were given MK421 (300 mg/l) in the drinking water. Parallel groups of rats were fed a standard diet (0.26 meq Na+/24 h) without MK421. As expected, rats maintained on the low-Na+ regimen for either 5 or 21 days had marked stimulation of plasma renin activity and increased angiotensin I, angiotensin II and aldosterone formation. When MK421 was added to the drinking water, there was inhibition of angiotensin II formation at 5 days (low Na+, 99.4 .+-. 25.8 pg/ml; low Na+ + MK421, 26.3 .+-. 10.5 pg/ml; P < 0.02), but angiotensin II formation at 3 wk was not different from the control group (low Na+, 499 .+-. 147 pg/ml; low Na+ + MK421, 306 .+-. 110 pg/ml). Plasma aldosterone levels closely paralleled those of angiotensin II in all groups (r = 0.94, P < 0.05) compatible with angiotensin II stimulation of aldosterone production, even in the face of ACE inhibition. The following lines of evidence suggested decreased angiotensin II activity in MK421-treated rats at 3 wk: MK421-treated rats anesthetized with pentobarbital (50 mg/kg) were hypotensive (mean arterial ***pressure*** , 71.5 .+-. 8.7 vs. 125.7 .+-. 3.2 mm Hg; P < 0.001); ACE was markedly suppressed (268 .+-. 11.4 vs. 1.50 .+-. 0.87 nmol/ml/min; P < 0.001); and the pressor response to angiotensin I was blunted. Under conditions of severe chronic Na+ restriction, the hypotensive effect of MK421 was ***dissociated*** from suppressed levels of plasma angiotensin II. Hypotension was not due to plasma volume contraction: plasma volume was expanded in the chronic low Na+ + MK421 group compared with the group without MK421 (4.86 .+-. 0.13 vs. 3.61 .+-. 0.12 ml/100 g body wt; P < 0.001). Serum Na+ varied inversely with plasma volume (low Na+ + MK421, 127.5 .+-. 4.3 meq/l; without MK421, 144.8 .+-. 1.3 meq/l; P < 0.001), suggesting a MK421-induced defect in water handling by the kidney. Chronic administration of MK421 was also associated with a striking rise in blood ***urea*** nitrogen level at both 5 days (normal controls, 14.3 .+-. 0.6 mg/dl; low Na+ + MK421, 74.4 .+-. 9.9 mg/dl; P < 0.001) and 3 wk (62.5 .+-. 17.4 mg/dl vs. normal controls; P < 0.001). These studies revealed multiple physiologic abnormalities and suggest that part of the hypotensive effect accompanying MK421 is mediated by factors other than blockade of angiotensin II formation.

L18 ANSWER 63 OF 78 BIOSIS COPYRIGHT 2000 BIOSIS
AN 1983:214257 BIOSIS
DN BA75:64257
TI MECHANICAL AND WATER HOLDING PROPERTIES OF HEAT INDUCED SOY PROTEIN GELS AS RELATED TO THEIR STRUCTURAL ASPECTS.
AU FURUKAWA T; OHTA S
CS KYOWA HAKKO KOGYO CO. LTD., TOKYO RES. LAB., 3-6-6 ASAHIMACHI, MACHIDASHI, TOKYO, JPN.
SO J TEXTURE STUD, (1982) 13 (1), 59-70.
CODEN: JTXSBU. ISSN: 0022-4901.
FS BA; OLD
LA English
AB The dependence of mechanical and water-holding properties of soy ***protein*** gels upon their structures was examined. Gels varying in extent of network formation were prepared by heating 20% paste of the

isolated soy ***protein*** (ISP) containing L-cysteine hydrochloride (CySH) which has an ability to cleave intermolecular disulfide bonds. A rapid decrease in gel hardness and cohesiveness was observed with the increase in added amount of CySH up to 2.5 .times. 10-5 mol/g ISP and then a gradual decrease to 5.0 .times. 10-5 mol/g ISP. The changes in these mechanical parameters appeared to depend on the degree of the network formation interpreted from the ***solubility*** changes of gels in the phosphate buffer containing 6 M ***urea*** . The relaxation time, estimated by compression stress relaxation, was also dependent on the degree of the network formation, while the modulus of elasticity was hardly affected. There was an inverse correlation between the NMR line width of the water proton and expressible water by the ***pressure*** method as an index of water-holding properties of the gel; the broader the former, the lesser the latter. The change in the water-holding capacity estimated from expressible water was also associated with that in the degree of the network formation. This confirms that mechanical and water-holding properties of the gel are qualitatively governed by the extent of the structure formation controlled by the intermolecular disulfide bonds.

L18 ANSWER 64 OF 78 EMBASE COPYRIGHT 2000 ELSEVIER SCI. B.V.
AN 1998059733 EMBASE
TI Optimization of membrane isolation and transferrin-binding proteins solubilization from Neisseria meningitidis cells.
AU Echeverria B.; Gomez J.A.; Hernandez E.; Criado M.T.; Ferreiros C.
CS M.T. Criado, Depto. Microbiol./Parasitologia, Facultad de Farmacia, Univ. Santiago de Compostela, Santiago de Compostela, Spain
SO Journal of Microbiological Methods, (20 Feb 1998) 31/3 (151-157).
Refs: 21
ISSN: 0167-7012 CODEN: JMIMDQ
PUI S 0167-7012(97)00097-3
CY Netherlands
DT Journal; Article
FS 029 Clinical Biochemistry
004 Microbiology
LA English
SL English
AB Studies on the functionality and immunogenicity of the Neisseria meningitidis transferrin-binding ***proteins*** (Tbps) require their optimal isolation and ***solubilization*** . To optimize these we have evaluated three fractionation and six ***solubilization*** protocols. The best fractionation results were obtained by incubation of the meningococcal cells with lithium chloride followed by passage through a French ***pressure*** cell, with ***protein*** yields of 11.4 mg/g of cells, and activity yields at least three times higher than with other methods. ***Solubilization*** gave results that were variable depending on the ***solubilizing*** agent. ***Protein*** and activity yields were optimal using CTB, and SDS was very effective in maintaining Tbp integrity, but these detergents were not useful for the subsequent purification by affinity chromatography at low temperature. ***Solubilization*** with SDS or ***urea*** produced the best extraction of Tbp1, although ***urea*** inactivated the Tbps functionality. ***Solubilization*** with Triton X-100 allowed the purification of functional Tbps by affinity chromatography on transferrin-agarose columns at low temperature. ***Solubilization*** with ***urea*** /SDS would be the best choice if purification of the Tbps is to be done by affinity chromatography employing specific

antibodies that act as the affinity ligand to obtain the ***proteins*** for immunological studies. Copyright (C) 1998 Elsevier Science B.V.

L18 ANSWER 65 OF 78 EMBASE COPYRIGHT 2000 ELSEVIER SCI. B.V.
AN 89186548 EMBASE
DN 1989186548
TI [Selectivity of alpha-2-adrenergic agonists for alpha2 receptors and imidazoline ***guanidinium*** receptive substance].
SELECTIVITE DES AGONISTES ALPHA2-ADRENERGIQUES POUR LES RECEPTEURS IMIDAZOLINIQUE- ***GUANIDINIQUES*** ET ALPHA2-ADRENERGIQUES.
AU Lachaud V.; Coupry I.; Podevin R.A.; Koenig E.; Parini A.
CS U 7 INSERM/UA 318 CNRS, Departement de Pharmacologie, Hopital Necker, 75015 Paris, France
SO Archives des Maladies du Coeur et des Vaisseaux, (1989) 82/7 (1135-1137). CODEN: AMCVAN
CY France
DT Journal
FS 018 Cardiovascular Diseases and Cardiovascular Surgery
006 Internal Medicine
030 Pharmacology
037 Drug Literature Index
LA French
SL English
AB Imidazolines have been proposed as highly selective drugs for alpha2-adrenergic receptors. However, we have recently shown that the imidazoline ligand 3H-RX 781094 (idazoxan) binds to both alpha2-receptors and imidazoline ***guanidinium*** receptive substance (IGRS) in rabbit renal proximal tubule. Binding of 3H-RX 781094 to the purified basolateral membranes (15-fold enriched in Na-KATPase activity) was rapid (t1/2 = 5 mn.) reversible (t1/2 = 4 mn.), saturable and of high affinity. Scatchard analysis of equilibrium binding data showed that 3H-RX 781094 labels 566 .+-. 118 fmol/mg of ***proteins*** of binding sites with an apparent ***dissociation*** constant (Kd) of 1.45 .+-. 0.14 nM. On the other hand, the non imidazoline ligand 3H-rauwolscine binds only to the alpha2-adrenergic receptors with a maximal density of 155 .+-. 28 fmol/mg of ***protein*** and a Kd of 11.5 .+-. 1.5 nM. In order to define the relative affinity of the alpha-2-agonists, clonidine, rilmenidine and guanfacine for the two classes of receptors, we performed competition studies of the alpha2-antagonists 3H-RX 781094 (imidazoline) and 3H-rauwolscine (non imidazoline) binding to basolateral membranes from rabbit proximal tube. The order of potency for inhibition of the two radioligand binding was rilmenidine > clonidine > guanfacine for 3H-RX 781094 and clonidine > guanfacine > rilmenidine for 3H-rauwolscine. Therefore, rilmenidine displayed a higher affinity for IGRS than for alpha2 adrenergic receptors; on the other hand, clonidine and guanfacine preferentially interact with alpha2 receptors. These data suggest that clonidine, rilmenidine and guanfacine interact with two classes of binding sites, alpha2 adrenergic receptors and IGRS. The higher affinity of these molecules for one or the other classes of receptors could explain their different capacity to decrease blood ***pressure*** and induce side effects.

L18 ANSWER 66 OF 78 BIOTECHNO COPYRIGHT 2000 Elsevier Science B.V.
AN 1992:22076565 BIOTECHNO
TI ***Dissociation*** of a native dimer to a molten globule monomer. Effects of ***pressure*** and dilution on the association equilibrium of arc repressor

AU Silva J.L.; Silveira C.F.; Correia Jr. A.; Pontes L.
CS Departamento de Bioquimica, Inst. de Ciencias Biomedicas, Uni Federal do Rio de Janeiro,21910 Rio de Janeiro, RJ, Brazil.
SO Journal of Molecular Biology, (1992), 223/2 (545-555)
CODEN: JMOBAK ISSN: 0022-2836
DT Journal; Article
CY United Kingdom
LA English
SL English
AB The monomer-dimer association reaction of Arc repressor was studied by ***pressure*** -induced ***dissociation*** and by dilution. The ***dissociation*** was measured by the decrease (red shift) in the average energy of emission of the tryptophan fluorescence. ***Pressure*** ***dissociation*** also promoted a decrease in the excited-state lifetime of the single tryptophanyl residue, Trp14. These observations suggest that Trp14 becomes exposed to an aqueous environment following ***dissociation*** . The ***pressure*** - ***dissociation*** curves were concentration dependent, with p(.half.) (half- ***dissociation*** ***pressure***) shifting to higher ***pressures*** as the concentration increased. The ***dissociation*** constant (K(o)(d)) obtained by extrapolating the ***pressure*** - ***dissociation*** curves to atmospheric ***pressure*** was similar to that determined from the dilution curve (K(o)(d) = 30 nM). An anomolous steepness of ***dissociation*** in response to dilution was observed, suggesting that conformational changes occur as a result of ***dissociation*** of Arc repressor. Binding of bis(8-anilinonaphthalene-1-sulfonate) to Arc repressor was not significantly affected by ***pressure*** ***dissociation*** , whereas thermal or ***urea*** denaturation was accompanied by a dramatic decrease in binding. These results suggest that the conformational changes that follow ***dissociation*** induced by ***pressure*** are more limited than those following denaturation. The tryptophan anisotropy decreased by about one-half, suggesting the ***dissociation*** of a globular dimer to a compact monomer. On the other hand, denaturation by ***urea*** promoted an increase in anisotropy, as expected for a random-coil conformation. ***Dissociated*** Arc has the hydrodynamic properties of a folded monomer. On the other hand, ***dissociated*** Arc has a high degree of exposure of hydrophobic side-chains, and the distribution of conformations is much broader than that in the folded dimer. These features suggest that the ***dissociated*** subunit is a molten globule. The subunit interaction was substantially increased by a single amino acid substitution (Pro8.fwdarw.Leu), and the free energy of stabilization amounted to -2.9 kcal/mol. This increased stability suggests that residue 8 is located in the dimer interface and that part of the tertiary and most of the quaternary structure constraints result from the interaction between the intersubunit .beta.-strands.

L18 ANSWER 67 OF 78 Elsevier BIOBASE COPYRIGHT 2000 Elsevier Science B.V.
AN 1998156561 ESBIOBASE
TI ***Pressure*** -induced subunit ***dissociation*** and unfolding of dimeric .beta.- lactoglobulin
AU Valente-Mesquita V.L.; Botelho M.M.; Ferreira S.T.
CS Dr. S.T. Ferreira, Departamento de Bioquimica Medica, Instituto de Ciencias Biomedicas, Univ. Federal do Rio de Janeiro, Rio de Janeiro, RJ 21941-590, Brazil.
E-mail: ferreira@bioqmed.ufrj.br

SO Biophysical Journal, (1998), 75/1 (471-476), 29 reference(s)
CODEN: BIOJAU ISSN: 0006-3495
DT Journal; Article
CY United States
LA English
SL English
AB Effects of hydrostatic ***pressure*** on dimeric .beta.-lactoglobulin A (.beta.-Lg) were investigated. Application of ***pressures*** of up to 3.5 kbar induced a significant red shift (.sim.11 nm) and a 60% increase in intrinsic fluorescence emission of .beta.-Lg. These changes were very similar to those induced by ***guanidine*** hydrochloride, which caused subunit ***dissociation*** and unfolding of .beta.-Lg. A large hysteresis in the recovery of fluorescence parameters was observed upon decompression of .beta.-Lg. ***Pressure*** -induced ***dissociation*** and unfolding were not fully reversible, because of the formation of a nonnative intersubunit disulfide bond that hampered correct refolding of the dimer. Comparison between ***pressure*** ***dissociation*** /unfolding at 3.degree.C and 23.degree.C revealed a marked destabilization of .beta.-Lg at low temperature. The stability of .beta.-Lg toward ***pressure*** was significantly enhanced by 1 M NaCl, but not by glycerol (up to 20% v/v). These observations suggest that salt stabilization was not related to a general cosolvent effect, but may reflect charge screening. Interestingly, ***pressure*** -induced ***dissociation*** /unfolding was completely independent of .beta.-Lg concentration, in apparent violation of the law of mass action. Possible causes for this anomalous behavior are discussed.

L18 ANSWER 68 OF 78 Elsevier BIOBASE COPYRIGHT 2000 Elsevier Science B.V.
AN 1997027274 ESBIOBASE
TI Rapid size-exclusion chromatography of proteoglycans
AU Johnson P.Y.; Blake D.A.
CS D.A. Blake, Department of Ophthalmology, Tulane University School of Medicine, New Orleans, LA 70112, United States.
SO Journal of Chromatography B: Biomedical Applications, (1997), 688/1 (27-33), 15 reference(s)
CODEN: JCBBEP ISSN: 0378-4347
PUI S0378434796002691
DT Journal; Article
CY Netherlands
LA English
SL English
AB The separation of intact proteoglycan using high-performance liquid chromatography is not trivial because the high molarity denaturing buffers required to maintain proteoglycans in the ***disaggregated*** state create back- ***pressures*** higher than the limits of many HPLC systems. Until recently, low back- ***pressure*** requirements of HPLC size-exclusion columns precluded their use for the separation of intact proteoglycans. In this study we show that rapid size-exclusion chromatography is possible in 8 M ***urea*** buffers using a Dionex BioLC system equipped with a Bio-Rad BioSil Sec-400 column. This technique reduced the time required for size-exclusion chromatography of intact proteoglycans from approximately 18 h (Sepharose CL4B) to 25 min and in some cases improved resolution of the sample.

L18 ANSWER 69 OF 78 Elsevier BIOBASE COPYRIGHT 2000 Elsevier Science B.V.
AN 1994127225 ESBIOBASE
TI High- ***pressure*** NMR study of the ***dissociation*** of arc

repressor
AU Peng X.; Jonas J.; Silva J.L.
CS J.L. Silva, Departamento de Bioquimica, Instituto de Ciencias Biomedicas, Universidade Federal Rio de Janeiro, 21910 Rio de Janeiro, RJ, Brazil.
SO Biochemistry, (1994), 33/27 (8323-8329)
CODEN: BICHAW ISSN: 0006-2960
DT Journal; Article
CY United States
LA English
SL English
AB Different denatured states of Arc repressor were characterized by one-dimensional and two-dimensional NMR and by fluorescence spectroscopy. Increasing ***pressure*** promoted sequential changes in the structure of Arc repressor: from the native dimer through a predissociated state to a denaturated molten globule monomer. A compact state (molten globule) of Arc repressor was obtained in the ***dissociation*** of Arc repressor by ***pressure*** whereas high temperature and ***urea*** induced ***dissociation*** and unfolding to less structured conformations. The NMR spectra of the monomer under ***pressure*** (up to 5.0 kbar) are typical of a molten globule, and they are considerably different from those of the native dimer and the thermally or chemically denatured monomer. The substantial line broadening and overlap of many resonances in the NMR spectra at high ***pressures*** indicate that there is interconversion between a number of different conformations of the molten globule at an intermediate exchange rate. The two-dimensional NOE spectra show that the ***pressure*** -denatured monomer retains substantial secondary structure. The presence of NOEs in the .beta.-sheet region in the ***dissociated*** state suggests that the intersubunit .beta.-sheet (residues 6-14) in the native- dimer is replaced by an intramonomer .beta.-sheet. Changes in 2D NMR spectra prior to ***dissociation*** indicate the existence of a predissociated state that may represent an intermediate in the folding and subunit association pathway of Arc repressor.

L18 ANSWER 70 OF 78 JICST-EPlus COPYRIGHT 2000 JST
AN 940653079 JICST-EPlus
TI High ***Pressure*** Effects on Solution Properties and ***Proteins*** . Effects of ***pressure*** and temperature on the ***solubility*** of ethylbenzene in aqueous solution of 1mol kg-1 ***urea*** .
AU SAWAMURA SEIJI; TANIGUCHI YOSHIHIRO
NAGAOKA KEN'ICHI
CS Ritsumeikan Univ., Fac. of Sci. and Eng.
RalkmCSaA9D UDa}., GH9R. SP .
SO Koatsu Baiosaiensu (High Pressure Bioscience), (1994) pp. 10-15. Journal Code: M199400
ISBN: 4-915592-48-0
CY Japan
LA Japanese
STA New

L18 ANSWER 71 OF 78 IFIPAT COPYRIGHT 2000 IFI
AN 2822676 IFIPAT;IFIUDB;IFICDB
TI PARTICLE BINDERS; BONDING SUPERABSORBENT PARTICLES TO CELLULOSE OR WOOD PULP FIBERS, DIAPERS
INF Hansen, Michael R, Seattle, WA

Young, Sr, Richard H, Renton, WA
IN Hansen Michael R; Young Richard H Sr
PAF Weyerhaeuser Company, Federal Way, WA
PA Weyerhaeuser Co (91928)
EXNAM Raimund, Christopher
AG Johnson & Kindness PLLC
O'Connor, Christensen
PI US 5611885 19970318
AI US 1995-486353 19950607
XPD 18 Mar 2014
RLI US 1992-931059 19920817 CONTINUATION-IN-PART 5543215
US 1992-931213 19920817 CONTINUATION-IN-PART 5300192
US 1992-931277 19920817 CONTINUATION-IN-PART 5538783
US 1992-931278 19920817 CONTINUATION-IN-PART 5352480
US 1992-931279 19920817 CONTINUATION-IN-PART
US 1992-931284 19920817 CONTINUATION-IN-PART 5308896
US 1993-108217 19930817 DIVISION 5547745
FI US 5611885 19970318
US 5543215
US 5300192
US 5538783
US 5352480
US 5308896
US 5547745
DT UTILITY; CERTIFICATE OF CORRECTION
CDAT 23 Sep 1997
FS CHEMICAL
CLMN 50
GI 10 Drawing Sheet(s), 19 Figure(s).
AB A binder is applied to fibers to bind particles to the fibers. The fibers have hydrogen bonding functional groups. The particles have functional groups capable of forming a hydrogen bond or a coordinate covalent bond. The binder comprises binder molecules, wherein the binder molecules have at least one functional group that forms a hydrogen bond or a coordinate covalent bond with the particles, and at least one functional group that forms a hydrogen bond with the fibers. A substantial portion of the particles that may be adhered to the fibers are adhered in particulate form by hydrogen bonds or coordinate covalent bonds to the binder, and the binder in turn may be adhered to the fibers by hydrogen bonds. Fibers containing particles bound by this method are easily densified.
CLMN 50
GI 10 Drawing Sheet(s), 19 Figure(s).

L18 ANSWER 72 OF 78 IFIPAT COPYRIGHT 2000 IFI
AN 2662298 IFIPAT;IFIUDB;IFICDB
TI PROCESS FOR PURIFYING BACTERIALLY PRODUCED M-CSF; ISOLATION OF BODIES, SUSPENSION, AGITATION AND CENTRIFUGING
INF Chang, Byeong S, Orinda, CA
Cowgill, Cynthia A, Berkeley, CA
Dorin, Glenn, San Rafael, CA
Gray, David R, El Cerrito, CA
Milley, Robert J, Berkeley, CA
IN Chang Byeong S; Cowgill Cynthia A; Dorin Glenn; Gray David R; Milley Robert J
PAF Chiron Therapeutics, Emeryville, CA
PA Chiron Therapeutics (37388)
EXNAM Wityshyn, Michael G

EXNAM Degen, Nancy J
AG Blackburn, Robert P
Chung, Ling-Fong
McGarrigle, Jr, Philip L
PI US 5466781 19951114 (CITED IN 002 LATER PATENTS)
AI US 1993-28375 19930308
XPD 14 Nov 2012
RLI US 1991-705399 19910524 CONTINUATION-IN-PART ABANDONED
FI US 5466781 19951114
DT UTILITY; REASSIGNED
FS CHEMICAL
OS CA 124:53816
MRN 007552 MFN: 0939
CLMN 23
GI 1 Drawing Sheet(s), 1 Figure(s).
AB A process is described for producing M-CSF from bacteria. It includes: fermentation of bacteria containing M-CSF DNA; harvest of the fractions that contain the M-CSF protein (refractile bodies); primary recovery of the protein; solubilization and denaturation of refractile bodies; M-CSF refolding; purification by column chromatography and other methods; and formulation of the properly refolded M-CSF. This method is advantageous over prior methods in terms of yield and purity.
CLMN 23
GI 1 Drawing Sheet(s), 1 Figure(s).

L18 ANSWER 73 OF 78 IFIPAT COPYRIGHT 2000 IFI
AN 2545578 IFIPAT;IFIUDB;IFICDB
TI THERMOPLASTICALLY PROCESSABLE STARCH AND A METHOD OF MAKING IT; PLASTICIZING, HOMOGENIZING, MELTING, WATER-FREE
INF Tomka, Ivan, Schutzenmattstr 1, 5600 Lenzburg, CH
IN Tomka Ivan (CH)
PAF Unassigned
PA Unassigned Or Assigned To Individual (68000)
EXNAM Nutter, Nathan M
AG Ostrolenk, Faber, Gerb & Soffen
PI US 5362777 19941108 (CITED IN 044 LATER PATENTS)
AI US 1993-115243 19930830
XPD 8 Nov 2011
RLI US 1991-785931 19911031 CONTINUATION ABANDONED
US 1990-536683 19900711 CONTINUATION-IN-PART ABANDONED
PRAI CH 1988-4083 19881103
FI US 5362777 19941108
DT UTILITY; REASSIGNED
FS CHEMICAL
MRN 006983 MFN: 0868
CLMN 27
AB In order to produce thermoplastically processable starch, an additive or plasticizer respectively is mixed with native or natural starch and the mixture is caused to melt by the application of heat and mechanical energy. The additive is a substance which lowers the melting point of the starch so that the melting point of the starch together with this additive lies below the decomposition temperature of the starch and the additive furthermore has a solubility parameter of over 15 cal 1/2 cm-3/2. After the mixture of starch and additive is molten, the melt is mixed until it is at least almost homogeneous. The vapor pressure of the additive within the melting range of the mixture of starch and additive should be less than one bar. Preferably the mixing process is executed

without the presence of water.
CLMN 27

L18 ANSWER 74 OF 78 IFIPAT COPYRIGHT 2000 IFI
AN 2478468 IFIPAT;IFIUDB;IFICDB
TI METHOD FOR PROCESSING CRYSTALLINE AMMONIUM CARBAMATE; COOLING AND CRYSTALLIZATION FROM A SOLUTION OF ***UREA*** , WATER AND AMMONIA
INF Hansen, Charles N, 1448 South 1700, Salt Lake City, UT, 84108-2602
IN Hansen Charles N
PAF Unassigned
PA Unassigned Or Assigned To Individual (68000)
EXNAM Straub, Gary P
AG Dowell & Dowell
PI US 5316554 19940531
AI US 1993-102991 19930728
XPD 3 Jun 2012
RLI US 1992-892924 19920603 CONTINUATION-IN-PART ABANDONED
FI US 5316554 19940531
DT UTILITY
FS CHEMICAL
OS CA 121:96658
CLMN 26
GI 1 Drawing Sheet(s), 1 Figure(s).
AB Ammonium carbamate, in solution with ***urea*** , water and ammonia and under high temperature and pressure is cooled to below its crystallization temperature while being subjected to an elevated pressure. The crystallized substance formed is then dried, crushed, and pelletized with the aid of a binding agent to produce pellets having substantial strength and stability, and having particular utility as a deicer for roadways.
CLMN 26
GI 1 Drawing Sheet(s), 1 Figure(s).

L18 ANSWER 75 OF 78 IFIPAT COPYRIGHT 2000 IFI
AN 2213116 IFIPAT;IFIUDB;IFICDB
TI PROCESS FOR ACTIVATION OF RECOMBINANT PROTEIN PRODUCED BY PROKARYOTES; DIGESTING CELL SAMPLE OF PROKARYOTE WHICH CONTAINS THE PROTEIN, RECOVERING, SOLUBILIZING, DIALYZING, ACTIVATING THE PROTEIN
INF Buchner, Johannes, Regensburg, DE
Lenz, Helmut, Tutzing, DE
Rudolph, Rainer, Weilheim, DE
IN Buchner Johannes (DE); Lenz Helmut (DE); Rudolph Rainer (DE)
PAF Boehringer Mannheim GmbH, Mannheim, DE
PA Boehringer Mannheim GmbH DE (10203)
EXNAM Draper, Garnette D
EXNAM Baker, R Keith
AG Felfe & Lynch
PI US 5077392 19911231 (CITED IN 007 LATER PATENTS)
AI US 1989-422948 19891017
XPD 17 Oct 2009
PRAI DE 1988-3835350 19881017
FI US 5077392 19911231
DT UTILITY
FS CHEMICAL
MRN 005187 MFN: 0206
CLMN 28
GI 3 Drawing Sheet(s), 2 Figure(s).

AB The present invention provides a process for the activation of gene-technologically produced, biologically active proteins expressed in prokaryotes after cell digestion by solubilization under denaturing conditions and reducing conditions and subsequent reactivation under oxidizing and renaturing conditions, wherein working is carried out at a protein concentration of 1 to 1000 Mu g./ml. and, between the solubilization and the reactivation, a dialysis is carried out against a buffer with a pH value of from 1 to 4 containing 4 to 8 mole/liter ***guanidine*** hydrochloride or 6 to 10 mole/liter ***urea*** .
CLMN 28
GI 3 Drawing Sheet(s), 2 Figure(s).

L18 ANSWER 76 OF 78 IFIPAT COPYRIGHT 2000 IFI
AN 2163105 IFIPAT;IFIUDB;IFICDB
TI ELECTROLYTIC TRANSDERMAL DELIVERY OF POLYPEPTIDES; DRUG DELIVERY
INF Sibalis, Dan, Stony Brook, NY
IN Sibalis Dan
PAF Drug Delivery Systems Inc, New York, NY
PA Drug Delivery Systems Inc (17319)
EXNAM Rosenbaum, C Fred
EXNAM Polutta, Mark O
AG Lackenbach Siegel Marzullo & Aronson
PI US 5032109 19910716 (CITED IN 004 LATER PATENTS)
AI US 1989-430067 19891101
DCD 7 Nov 2006
XPD 16 Jul 2008
RLI US 1987-12889 19870210 CONTINUATION 4878892
US 1989-360277 19890601 CONTINUATION ABANDONED
FI US 5032109 19910716
US 4878892
DT UTILITY
FS CHEMICAL MECHANICAL
CHEMICAL
MECHANICAL
CLMN 26
GI 1 Drawing Sheet(s), 1 Figure(s).
AB The invention comprises in combination: (a) a polypeptide having from about three to about 20 peptide units in aqueous solution or suspension, and (b) an electrolytic device for transdermal transport of the polypeptide to the bloodstream of the patient. It may be useful to enhance the transdermal delivery of the polypeptide by adding an aqueous cosolute/cosolvent with negative Setschenow constants. The electrolytic device preferably comprises a hydrophilic reservoir containing a supply of the aqueous polypeptide solution or suspension, an electric battery, two extended contacts, and optionally a semipermeable membrane between the reservoir and the patient's skin. Representative polypeptides include oxytocin, angiotensin I, II, and III, substance P, vasopressin, lypressin, desmopressin, leuprolide acetate, antripeptin, and the like.
CLMN 26
GI 1 Drawing Sheet(s), 1 Figure(s).

L18 ANSWER 77 OF 78 IFIPAT COPYRIGHT 2000 IFI
AN 2119662 IFIPAT;IFIUDB;IFICDB
TI BINDER COMPOSITION WITH LOW FORMALDEHYDE EMISSION AND PROCESS FOR ITS PREPARATION; POLYMER FORMED BY REACTING ACIDIFIED STARCH HYDROLYZATES WITH ***UREA*** AND FORMALDEHYDE
INF Mukherjee, Subhankar, San Paulo, BR

IN Mukherjee Subhankar (BR)
PAF Borden, Inc, Columbus, OH
PA Borden Inc (10515)
EXNAM Kight, III, John
EXNAM Hightower, P H
AG Rockey and Rifkin
PI US 4992519 19910212 (CITED IN 002 LATER PATENTS)
AI US 1989-304967 19890201
XPD 1 Feb 2009
FI US 4992519 19910212
DT UTILITY; REASSIGNED; EXPIRED
FS CHEMICAL
OS CA 114:166667
MRN 005498 MFN: 0342
CLMN 12
AB Binder for the production of particle board and plywood with low formaldehyde emission which comprises a polymer formed fron an acidified starch hydrolyzate, ***urea*** and formaldehyde. Process for preparation of the polymer and for its use for production of particle board and plywood are also disclosed.
CLMN 12

L18 ANSWER 78 OF 78 IFIPAT COPYRIGHT 2000 IFI
AN 1262105 IFIPAT;IFIUDB;IFICDB
TI METHOD FOR THE ADSORPTION OF SOLIDS BY WHOLE SEEDS; TREATING WITH A SYNERGISTIC SOLID
INF Barham, deceased, Harold N, 3025 46th St, late of Lubbock, TX
Barham, heir, by Doris, 3025 46th St, Lubbock, TX, 79413
Barham, Jr, Harold N, 3025 46th St, Lubbock, TX, 79413
IN BARHAM HAROLD N; BARHAM HAROLD N JR
PAF Unassigned
PA UNASSIGNED OR ASSIGNED TO INDIVIDUAL (68000)
EXNAM Smith, William F
AG Sheridan, Ross, Fields & McIntosh
PI US 4208433 19800617 (CITED IN 012 LATER PATENTS)
AI US 1978-907834 19780519
XPD 17 Jun 1997
RLI US 1972-287105 19720907 CONTINUATION ABANDONED
US 1974-532757 19741216 CONTINUATION-IN-PART ABANDONED
FI US 4208433 19800617
DT UTILITY; REEXAMINED
FS CHEMICAL
CLMN 42
AB A method for sorption of solids by the tissues of whole seeds to enhance the available nutritional value of the whole seeds, to provide nutritional requirements for a ruminant feed, to provide new superimposed processes, to make more effective present superimposed processes, to provide innoculation with viable organisms, to provide means to reduce explosion hazzards from grain dust, and other advantages accruing from encapsulation of solids, the method comprising contacting the whole seeds with a synergetic mixture of solid materials and an oleaginous vehicle and maintaining contact until the synergetic mixture has been sorbed by the grain.
CLMN 42

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